The 2050 challenge: future proofing our communities

A discussion paper

July 2016

We are.
LGNZ.

Contents

A paper prepared for LGNZ by Castalia Strategic Advisors

Foreword

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New Zealand is facing a period of uncertainty. How we manage these challenges and the decisions we make, will have a direct bearing on our quality of life in the future.

New Zealand, like nations throughout the world, is facing a period of major uncertainty which is posing challenges for communities throughout the country. How we manage these challenges, and the decisions we make today, will have a direct bearing on our quality of life in the future. Our decision to publish this paper is to ensure that decision-makers, at both the national and local level, are fully informed of the shifts driving these changes. The initiative is designed to stimulate a conversation about the nature of the shifts, how they might impact on our communities and what we can do about them.

This paper focuses on shifts that pose enduring questions for our communities

Some shifts are high-profile, while others, which may be just as important, struggle to find resonance. To have relevance to long-term strategic planning, this paper focuses on shifts that pose "enduring questions" – questions that will persist over time and are likely to have the greatest impact on achieving the vision that we share for our communities. This is not to say that other shifts are not important or deserving of attention, but rather emphasise that our shared vision cannot be achieved without directly confronting the shifts discussed in this paper and the enduring questions they pose.

LGNZ is taking this debate forward

We sees this paper as just the first step in a broader 2050 Challenge work stream. It reflects local government's leadership in planning for the long-term prosperity of our communities and future work will specifically consider the role councils can play in responding to these shifts. Future work will also be needed to raise local awareness about how the shifts discussed in this think piece are likely to play out for each community.

Decision-makers and thinkers from all different political perspectives have contributed to this work. All agree that this conversation needs to transcend partisan positions. I would like to thank the members of LGNZ young elected members' group for taking the lead and suggesting that we undertake this initiative and for their contribution to making it the quality paper that it is.

This paper is the starting point for a conversation – not the end of it.

Lawrence Yule
President
Local Government New Zealand

Future proofing our communities

LGNZ 2050 is a framework for thinking about the future. What will our communities look like in 35 years, and what can we do between now and then to plan in the best interests of those future generations?

Too often in local government our energy is consumed by responding to the issues of the day, which doesn't always leave us with enough capacity to give adequate thought to the future. However, due to the very nature of our long term planning focus, councils are well placed to lead discussions on the strategic issues that matter for New Zealand and our communities.

The genesis of the 2050 Challenge was a paper we wrote for National Council, outlining what the Young Elected Members saw as local government's biggest strategic hurdles. We saw the broad issue being our sector's capacity for longer term planning, not in terms of ability or interest, but in terms of resourcing. Larger metro councils may have strong policy and research units, but for many smaller councils this is a distant dream. We are better off working together, co-ordinated by LGNZ, as we tackle our present and future challenges head on.

LGNZ 2050 is a framework for thinking about the future. What will our communities look like in 35 years, and what can we do between now and then to plan in the best interests of those future generations? How do we deal with climate change, reducing its effects and dealing with its impacts? What does the future of work mean for the opportunities people have to make valuable contributions to their community? How do we plan for an ageing population, and make the work we do reflective of, and relevant to, an Aotearoa New Zealand that is increasingly ethnically diverse?

This paper doesn't provide all the answers, it simply asks the questions. Together, in the coming months and years, we will rise to the challenge it presents. It is a daunting task, but there is none more valuable or rewarding.

'Ana Coffey and Aaron Hawkins
Co-chairs
Young Elected Members Committee

Executive summary

Executive summary

It is a truism but communities that fail to adapt to change die. Given that we live in a world experiencing unprecedented change making necessary efforts to be prepared, whether by adaption or mitigation, seems the better of the two options. LGNZ 2050 is designed to highlight the choice and begin a conversation. Understanding the changes that communities are likely to face between now and 2050 is the first step in beginning to prepare for those changes.

Critical to our analysis is the notion of 'shifts'. New Zealand is undergoing a series of major shifts that will have a lasting impact on who we are, where and how we will live and how we will earn our living. The research and interviews undertaken for this paper suggest that the most significant of these shifts involve the following:

- our pattern of settlement;
- economic activity;
- demographic makeup; and
- the natural environment.

Although we may have said something similar 30 years ago the way in which these shifts are expected to play out over the coming 30 years calls for fresh thinking if we are to achieve our shared vision for New Zealand and our communities - fresh thinking to contribute to a debate that will maximise opportunities and mitigate threats.

As the starting point for a debate this paper identifies shifts in five key areas and we discuss five ways that those shifts should change the way we make decisions.

Urbanisation, liveable cities and changing demographics

New Zealand's population is expected to further concentrate in cities

- **The shift.** By 2050, 40 per cent of people will live in Auckland (compared to 30 per cent currently). Other major cities including Wellington and Christchurch are also expected to grow, while significant population decline is projected for mid-sized towns throughout many of the regions. We also face uncertainty in whether increased regional connectivity (enabled by technology), or other shifts, might reverse this trend.

- **Enduring questions.** How can areas facing population expansion expand infrastructure, housing and services to support denser populations in sustainable ways consistent with other community objectives? How can areas facing population contraction decide whether, when, and how to invest in renewing long-lived public infrastructure, and how best to plan urban form, to meet the needs of an uncertain future population?

New Zealand's population is ageing

- **The shift.** By 2050, the working age population will need to support almost double the number of people aged 65+. In the longer-term, it's projected we will follow the rest of the western world in facing a declining population.

- **Enduring questions.** How can we support our changing population to enable those aged over 65 to contribute to our communities and ensure decisions made and the share of burdens are fair on future generations?

Stewardship of our natural environment

- **The shift.** Our natural environment continues to be under threat, despite efforts in many quarters to halt its degradation. There are particularly concerning trends in the areas of biodiversity and freshwater. Since human settlement in New Zealand, nearly one third of native species have become extinct. In many places we are approaching limits to the quantity of fresh water we are able to take sustainably. The quality of water in New Zealand's lakes, rivers, streams, and aquifers is variable, and depends mainly on the dominant land use in the catchment .

- **Enduring questions.** How can we build consensus as a society about bottom lines for environmental prosperity and the trade-offs required to respect those bottom lines? How can we fairly apportion the cost of good environmental stewardship in which all New Zealanders share?

Responding to climate change

We need to be adapting and mitigating concurrently

- **The shift.** Our climate is already changing and will continue to change, the extent to which it does depends on the global emissions trajectory. Changes include: rising sea levels that will cause land loss through coastal erosion and storm events, higher temperatures and changes to rainfall patterns that will affect economic activity and ecosystems, and more intense tropical cyclones which increase the need for (and cost of) emergency response. Low carbon infrastructure and patterns of development are essential to future prosperity.

- **Enduring questions.** How can we take decisive action to reduce our greenhouse gas emissions consistent with the Paris Agreement, achieving net zero carbon emissions by mid-late this century? How can we adapt to the impacts of climate change in a way that shares the burdens fairly and provides the right incentives for people to minimise the costs of climate change to our communities?

The future of work

Automation is changing how we work

- **The shift.** Automation holds the prospect of producing more with less—improving our nation's overall prosperity. However, achieving those benefits may require major structural changes in employment. Some have suggested that 46 per cent of New Zealand jobs are at high risk of automation before 2050. In addition, the jobs of the future do not appear to be like many of the jobs of the past.

- **Enduring questions.** How can we ensure the benefits of greater productivity achieved through automation are shared by all in our communities? How can we enhance our education system to equip people with the skills needed for the jobs of tomorrow and help workers re-train?

Our communities are increasingly moving away from '9 to 5' permanent employment

- **The shift.** One third of New Zealand's working population now work in jobs that are not salaried full time employment. This includes part-time, contracting and those working multiple jobs. This can be beneficial to the extent jobs are more flexible (for example for those raising children). However, research suggests around half of those in temporary work are not doing so out of choice.

- **Enduring questions.** How can we ensure our policy settings preserve the freedom for people to work in the ways they choose, while providing appropriate protection of worker rights, and supporting cohesive communities?

Equality and social cohesion

On some measures inequality has worsened over the last 40 years

- **The shift.** Inequality is difficult to measure, but looking at income levels and the concentration of wealth, inequality has worsened over the past 40 years. Research suggests that inequality reduces social cohesion—and moving from an area of high social cohesion to an area of low social cohesion is as bad for personal health outcomes as taking up smoking.

- **Enduring questions.** How can we build consensus on the appropriate balance between equality of opportunity and equality of outcomes that we want in society? How can we respond to the other shifts our communities will face in consistent ways that achieve the kinds of equality we want?

New Zealand's ethnic composition is changing

- **The shift.** From a mix of natural population increase and net migration to New Zealand, the European population is expected to decrease by 12 per cent while all other ethnicities are expected to increase (the Māori population by 25 per cent, the Asian population by 71 per cent, and the Pasifika population by 40 per cent).

- **Enduring questions.** How can we best embrace the changing face of New Zealand? How might we empower and enable communities to express and celebrate their diverse cultural heritages, and respect the particular cultural significance of Māori as tangata whenua of New Zealand?

Impacts for decision-making

The key shifts and enduring questions can be daunting, which creates the risk that decisions are simply "too hard" to make. But decisions need to be made across the public and private sector because failing to act will not create the prosperous communities we strive to enjoy. Five common challenges we see are in:

- **Taking a 'whole of systems' approach to policy and planning.** Achieving the shared vision for prosperous communities relies on decision-makers taking a 'whole of systems' approach when responding to the shifts. This approach must recognise the complex interactions between them. Shifts can have cumulative or offsetting impacts, and we have the potential to respond to multiple shifts simultaneously. We can also design our responses to deliver co-benefits (for example to public health from town planning) that strengthen the policy justification for interventions. Many councils have already developed (and are continuing to develop) new models that support coordinated response. The scale of the coordination needed, however, particularly between central and local government, appears to be growing. We need to share experience to develop better models.

- **Responding to unequal impacts.** Almost all the shifts discussed in this think piece either have inherently unequal impacts on communities or generations, or have the potential

for unequal impacts depending on how we respond to them. Different regions are also expected to be affected in different ways. We need to ensure that we recognise equality concerns that shifts present and make decisions consistent with our priorities.

- **Responding to uncertain and dynamic shifts.** All of the shifts discussed in this think piece are uncertain—and many will occur over time. This uncertainty needs to be embedded within dynamic processes that are receptive to, and capable of, incorporating an evolving evidence base.

- **Increasing the strength and legitimacy of public decisions through greater civic participation.** Decisions need to represent the diversity of our communities and reflect the unique relationship between iwi and the crown established by The Treaty of Waitangi. We need to share thinking and develop new initiatives to increase voter turnout and civic participation, and through that the representativeness of decision-making, including across dimensions of age, ethnicity and gender.

- **Defining our communities in constructive ways.** We need to consider the way we define our communities in responding to the shifts, because how we respond reveals much about what we value, how we design interventions, and how we measure success. This is particularly the case in the context of unequal impacts. The definition can differ for different shifts. For some shifts, we define our communities more locally, while shifts like climate change might be something defined across a number of scales and levels of interaction: simultaneously local, regional and global.

1

What future do we want for New Zealand?

New Zealanders want to live in vibrant, sustainable, and socially inclusive communities. But how we can achieve these outcomes—particularly in the face of the substantial long-term changes facing our communities? Through its 2050 Challenge work stream, Local Government New Zealand wants to stimulate an open conversation on the major "shifts" facing our communities.

What future do we want for New Zealand?

By identifying and describing the shifts facing New Zealanders, this paper provides a basis for the critical discussions we need to have about how best to respond. By building a stronger understanding of the kinds of shifts underway in our communities, and the potential trajectories of those shifts, we can turn our minds to how to maximise the opportunities and address the challenges that come with change. In some cases, we can also change the trajectory of shifts to achieve greater prosperity.

Understanding the role of local government comes next

This paper is directed at a broad range of decision-makers – those in local government, central government, business, and those within our communities. It considers impacts on communities first and foremost, as the decisions of all stakeholders need to be informed by a shared understanding of the kinds of shifts our communities are likely to face. No one party holds all the cards, and so we need to work together to respond to future challenges.

LGNZ sees this paper as the first step in a broader 2050 Challenge work stream, reflecting the leadership role that local government plays in planning for the long-term prosperity of our communities. Future work in this area will specifically consider the role that local government can play in effectively responding to the shifts facing our communities.

This paper is the starting point for a conversation – not the end of it. Decision-makers and thinkers from all different political persuasions have contributed to this work. All agree that this conversation needs to transcend partisan positions. We welcome and encourage debate on the shifts discussed in this paper and what they mean for our communities.

< There are key factors which I think will fundamentally shape the future of New Zealand, with many of them already influencing the current landscape. That includes increased migration, a dramatic rise in tourism and the 'phenomenon' of Auckland with its massive housing, infrastructure and related challenges. But fundamentally I feel optimistic - every one of these areas is an opportunity to create positive growth sectors and, if we can invest intelligently and innovatively over the next 10 years, will shape how New Zealand develops as an innovative and sustainable country against the backdrop of an uncertain world. >

Anthony Healy, Managing Director and Chief Executive Officer, BNZ.

The remaining sections of this paper summarise the key shifts identified and the enduring questions they pose

The remainder of this paper is set out as follows:

- Section 2 articulates the shared vision we have for our communities as the basis on which to analyse the impact of shifts;
- Section 3 summarises perspectives on the key shifts that our communities will face out to 2050 and the enduring questions they pose;
- Section 4 discusses what these shifts mean for how we make decisions that will drive the future shape of our communities; and
- Section 5 discusses how LGNZ plans to take the 2050 Challenge work stream forward.

Thought leaders and sector experts have helped to identify the long-term changes that will shape our communities

LGNZ has developed this paper through direct interviews with thought leaders and sector experts, and by synthesizing the wide range of literature available on trends and challenges. Interviews and literature reviewed spanned the full range of social, cultural, economic, and environmental areas of expertise and research – providing a diverse range of perspectives to draw on in this work.

We extend our thanks to the interviewees who generously gave their time to contribute to this work and point us to valuable sources of knowledge on the topics discussed in this paper:

- Dr Marie Brown, Senior Policy Analyst, Environmental Defence Society
- Professor Peter Crampton, Pro-Vice Chancellor, Health Sciences, University of Otago
- Lani Evans, Director, Thankyou Payroll
- Anthony Healy, Managing Director and Chief Executive Officer, BNZ
- Natalie Jackson, Director, Natalie Jackson Demographics, Adjunct Professor of Demography, School of People, Environment and Planning, Massey University
- Dr Alexandra Macmillan, Public Health Physician and Senior Lecturer, Environmental Health, Department of Preventive and Social Medicine, University of Otago
- Max Rashbrooke, Author, academic and journalist
- Caroline Saunders, Professor and Director, Agriculture Economics Research Unit, Lincoln University
- Tā Mark Solomon, Kaiwhakahaere (Chair), Te Rūnanga o Ngāi Tahu
- Paul Spoonley FRSNZ, Distinguished Professor and Pro Vice-Chancellor, College of Humanities and Social Sciences, Massey University
- Dr Janet Stephenson, Director, Centre for Sustainability, University of Otago
- Sir Stephen Tindall, Founder and Non-Executive Director, The Warehouse Group

We also acknowledge the contributions of central government in this area. Cross-government and departmental initiatives, such as the Ministry of Transport Futures Project and the Treasury's work on living standards, have provided valuable insights into what the future may hold.

2

A shared vision for our communities

To understand the importance of the changes facing our communities, we need a clear understanding of how shifts are likely to influence the ability to achieve our shared objectives and interests. This understanding needs to extend across all of New Zealand's communities: urban and rural, growing and shrinking, rich and poor, and of all ethnic and racial compositions.

A shared vision for our communities

Acknowledging that the way in which communities live and work changes over time, this paper defines a shared vision that focuses on the core attributes needed for prosperous communities. Drawing on the 'four wellbeings' with their origin in the Local Government Act 2002, prosperity can be thought of as encompassing:

- **Social prosperity.** We want our communities to be characterised by equality, social cohesion and inclusiveness—with freedom from prejudice across all dimensions including ethnicity, gender and religion. We also want our communities to promote inter-generational equity—meeting the needs of the present population, without compromising the ability to meet the needs of future generations.
- **Cultural prosperity.** We want our communities to be empowered and enabled to express and celebrate their diverse cultural heritages, and recognise the particular cultural significance of Māori as tangata whenua of New Zealand.
- **Economic prosperity.** We want to have a sustainable economy with world-leading productivity in which all New Zealanders have the opportunity to contribute and succeed. Our economy should support the living standards New Zealanders need to lead happy, healthy lives.
- **Environmental prosperity.** We want to nurture our natural resources and ecosystems as environmental stewards, promoting biodiversity and environmental sustainability – embodying the concept of kaitiakitanga. We want our social, cultural and economic activities to be aligned with our goals for the environment.

While the emphasis within these dimensions may differ, we expect a large degree of consensus on the core elements of this vision. The remainder of this report identifies a range of shifts that will challenge the way we achieve this vision, and explains what these challenges might mean for decision-makers.

3

The key shifts facing our communities

The key shifts facing our communities

New Zealand communities are faced with a raft of shifts that will affect how we live. This section groups the key shifts that our communities may experience in the next 30-50 years under the following headings:

- Urbanisation, liveable cities and changing demographics (section 3.1);
- Stewardship of our natural environment (section 3.2);
- Responding to climate change (section 3.3);
- The future of work (section 3.4); and
- Equality and social cohesion (section 3.5).

These shifts raise broad challenges for the decisions we make that affect our communities. The implications for decision-makers are discussed in section 4.

3.1 Urbanisation, liveable cities and changing demographics

The shape and nature of our communities are determined by the people that belong to them. Shifts in how and where people live and work pose enduring questions in how we can provide key infrastructure and services, and empower communities to respond to changes, in both growing and declining areas. By 2050, it is projected that:

- More New Zealanders will live in urban centres (Section 3.1.1); and
- Our communities will face an increasingly ageing population (Section 3.1.2).

3.1.1 New Zealand's population is expected to further concentrate in cities

Driven by a mix of natural population increase and net immigration, Auckland is projected to add 800,000 people by 2043, expanding to 40 per cent of New Zealand's population (currently 30 per cent).[1] Outside of Auckland, cities like Wellington and Christchurch also are projected to grow. While these projections are Statistics New Zealand's best estimate, other shifts could arrest or reverse them.

< The twenty-first century is creating novel challenges for those charged with managing communities in some way – and for those who live in them. One of the most significant challenges is the result of demographic change – structural ageing, sub-replacement fertility, outmigration from some cities and regions, immigration and enhanced diversity ('superdiversity') for others - with very different demographic futures for different communities. For some, the challenge will be to manage growth to ensure that social and economic values are preserved. For others, it will be to understand and then manage population and economic stagnation – or even decline. New thinking and new policies are essential. >

Paul Spoonley FRSNZ, Distinguished Professor and Pro Vice-Chancellor, College of Humanities and Social Sciences, Massey University

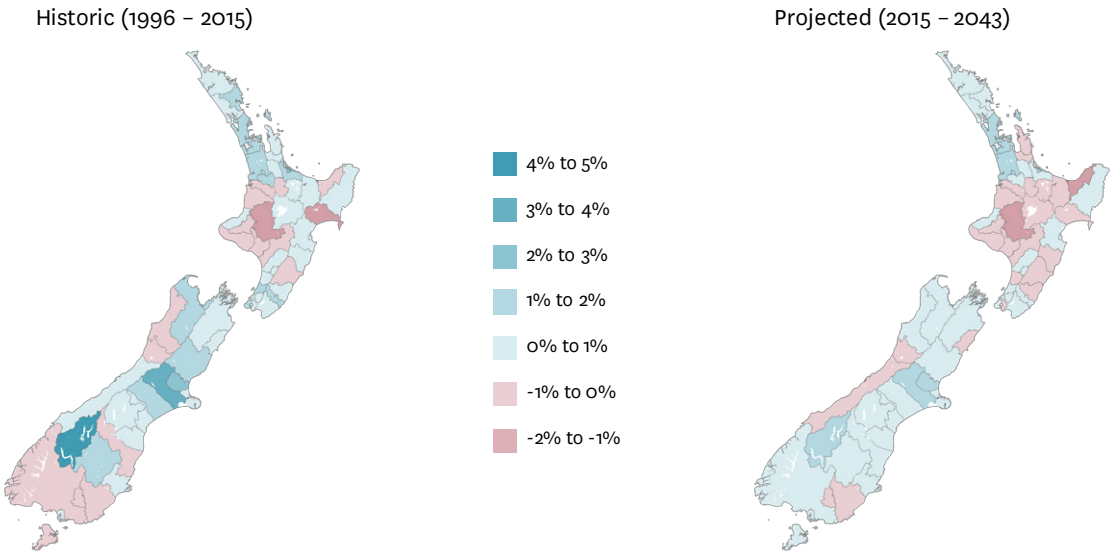
This concentration of population in cities is expected to come with a 'hollowing-out' of many mid-sized towns and rural areas across New Zealand, which have previously served industries that have declined, relocated, or are predicted to do so in the future.

Population growth and contraction is expected to differ significantly across the regions

In many areas, Statistics New Zealand projects recent trends of growth or decline to continue or strengthen. However, some areas that have experienced recent rapid growth (in per centage terms) are expected to slow down, such as Queenstown-Lakes and Selwyn. In addition, reversals of recent trends are forecast in areas like the West Coast. The existing understanding of these trends is shown in Figure 3.1.

1 Statistics New Zealand 'Population Projections Tables', 2014.

Figure 3.1: Annual average population growth rate for territorial authorities



Source: Schiff Consulting using data from Statistics New Zealand

Population changes are also not expected to be uniform within regions. While Figure 3.1 indicates that South Wairarapa, Carterton and Masterton are expected to experience population growth, sub-regional trends suggest there may be significant changes at the local level. Figure 3.2 takes a closer look at projections out to 2043 for these three local councils. Each blue dot represents a person gained and each red dot represents a person no longer living in the neighbourhood.[2] If current trends continue without intervention, modelling suggests:

- Significant changes in land use in town centres. The town centres of all cities and towns in the three councils (except Carterton) are expected to experience population loss, which may represent conversion of residential to commercial property.
- Strong growth on the outskirts of central Masterton, and dispersed population expansion outside of Masterton—perhaps with a greater demand for lifestyle blocks.
- While the Wairarapa region's population is set to grow overall, a large part of Masterton District Council is expected to decline in population.

These changes, whilst based on assumptions, provide scenarios to test and plan around. In some cases, they pose significant challenges for the liveability of towns and cities, and for rural productivity, and raise questions about sustainability. Significant sub-regional shifts in population are projected across the country, highlighting the need for interventions to change the demand trajectory, or local services and infrastructure to match new centres of demand.

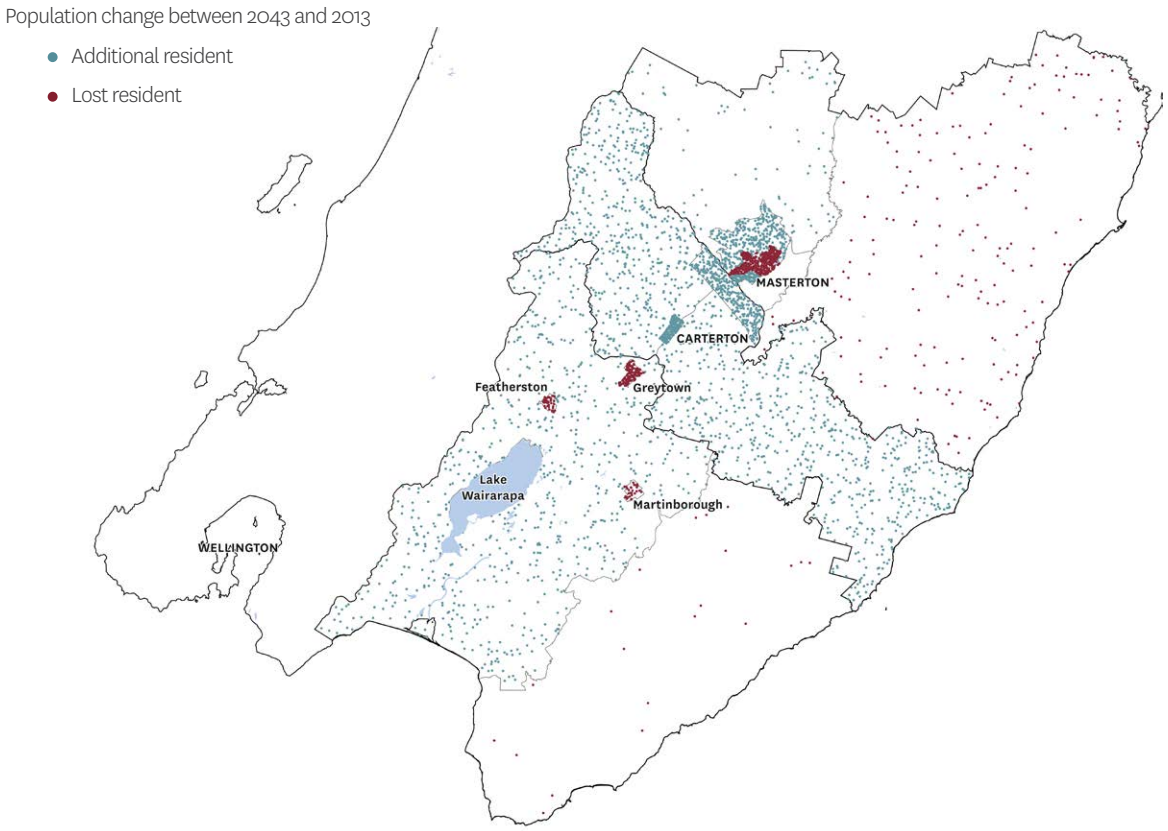
Challenges arise from rapid population change—both expansion and contraction

Auckland and other areas expected to face population expansion will have different challenges to those experiencing contraction. Areas facing population expansion will need to expand services and infrastructure to support larger populations. This must be done in sustainable ways consistent with other community objectives.

For example, urban planning rules will need to strike a balance between preserving the look and feel of communities while allowing for density to sustainably accommodate rising populations. That balance will be challenging to strike given it is likely to differ from neighbourhood to neighbourhood, will require innovative models of engagement to create truly community-led decision-making, and will involve hard decisions in the face of unequal impacts. Urban planning rules will also need to accommodate public open and green spaces in promoting community wellbeing and social cohesion.

2 While the area of the dot generally aligns with where that person is from, the dots represent averages for each census area unit so the map incorporates some 'averaging'.

Figure 3.2: Resident population projections in the Wairarapa: 2013 to 2043



Source: Schiff Consulting using data from Statistics New Zealand

These decisions are further complicated by the question of who should pay for these transformations to occur – with objectives of affordable housing potentially conflicting with the need to ensure that growth is fully funded.

Areas facing population contraction face different challenges. These communities need to decide whether, when, and how to invest in renewing large-scale, long-lived public infrastructure to meet the needs of an uncertain future population. Funding these investments sustainably is difficult, given that existing rate-based funding models are based on population. Opportunities to re-invigorate these communities need to be identified and fostered – for example, by maximising attractive lifestyle options enabled by mobile connectivity (particularly for 'satellite towns' serving major cities). Employing planning frameworks to achieve long-term strategies will also be critical, ensuring efforts to bolster population in the short term do not undermine the affordability of infrastructure provision and sustainability of urban form in the longer term.

While projections give us a sense of the existing state of knowledge, other shifts could arrest or reverse these projections

Our communities choose to live and work in an area for many reasons, including family and cultural ties, lifestyle, and economic opportunities. These sum of these 'decision-drivers', plus others identified shifts at play, could change the population dynamics in any given area.

Key interacting shifts in this space include the extent to which people embrace 'localism' over metropolitan lifestyles, the type of urban form that is promoted and regulated through urban planning, the nature of communication and transport technology (including automation) within and between regions, the potential influx of climate refugees, and immigration policy.

< We are starting to see quite different consumer expectations about mobility, such as the perspective amongst many young people that car ownership no longer represents freedom but is a burden. The emergence of flexible options for personal mobility, such as shared vehicles, and (before long) smart autonomous vehicles that can be available on demand, may create a new mobility option that is neither public transport nor a private vehicle but something of each. If this proves to be attractive, it will have major implications for future levels of road use and provision of road infrastructure, as well as settlement patterns. >

Dr Janet Stephenson, Director, Centre for Sustainability, University of Otago

3.1.2 New Zealand's population is ageing

To 2050 and beyond, Statistics New Zealand projects our communities will face an increasingly ageing population. Combining ageing with urbanisation is likely to create significant challenges for all communities but particularly those smaller rural communities that face both a decline in population and a greater proportion of older people.

Statistics New Zealand's projections incorporate two population trends:

- **The shorter-term dynamic of the baby boomer bulge.** By 2050, the 'dependency' ratio of those aged 65+ to those aged between 15 and 64 is likely to almost double from 22 per 100 people (currently) to approximately 40 per 100 people.[3] At the same time, life expectancy is increasing—expanding the range of ways in which the elderly can contribute to our communities. While this poses significant challenges, the baby boomer bulge will, by its nature, eventually dissipate.

- **The longer-term projection is for New Zealand's population to peak and then decline**, following the experience of many developed countries internationally. This decline is expected to be caused by births being below that necessary to maintain population levels and net migration not making up for the difference. Although this is influenced by factors including national immigration policy, Statistics NZ suggests there is a 1 in 3 chance that this will be happening by 2068.[4] The extent of the trend and the level at which population will settle is unclear.[5]

< New Zealand's ageing population presents us with opportunities and challenges. The opportunities lie in the positive capacity of older people to contribute to family and community life and wellbeing in new and expanded ways. Capitalising on this will require a rethink of how we conduct the day-to-day business of living in communities. Challenges also lie in providing care and support for older people as they become less independent and more in need of health care. These opportunities and challenges are of course linked together. >

Peter Crampton, Pro-Vice-Chancellor, Division of Health Sciences & Dean, University of Otago Medical School

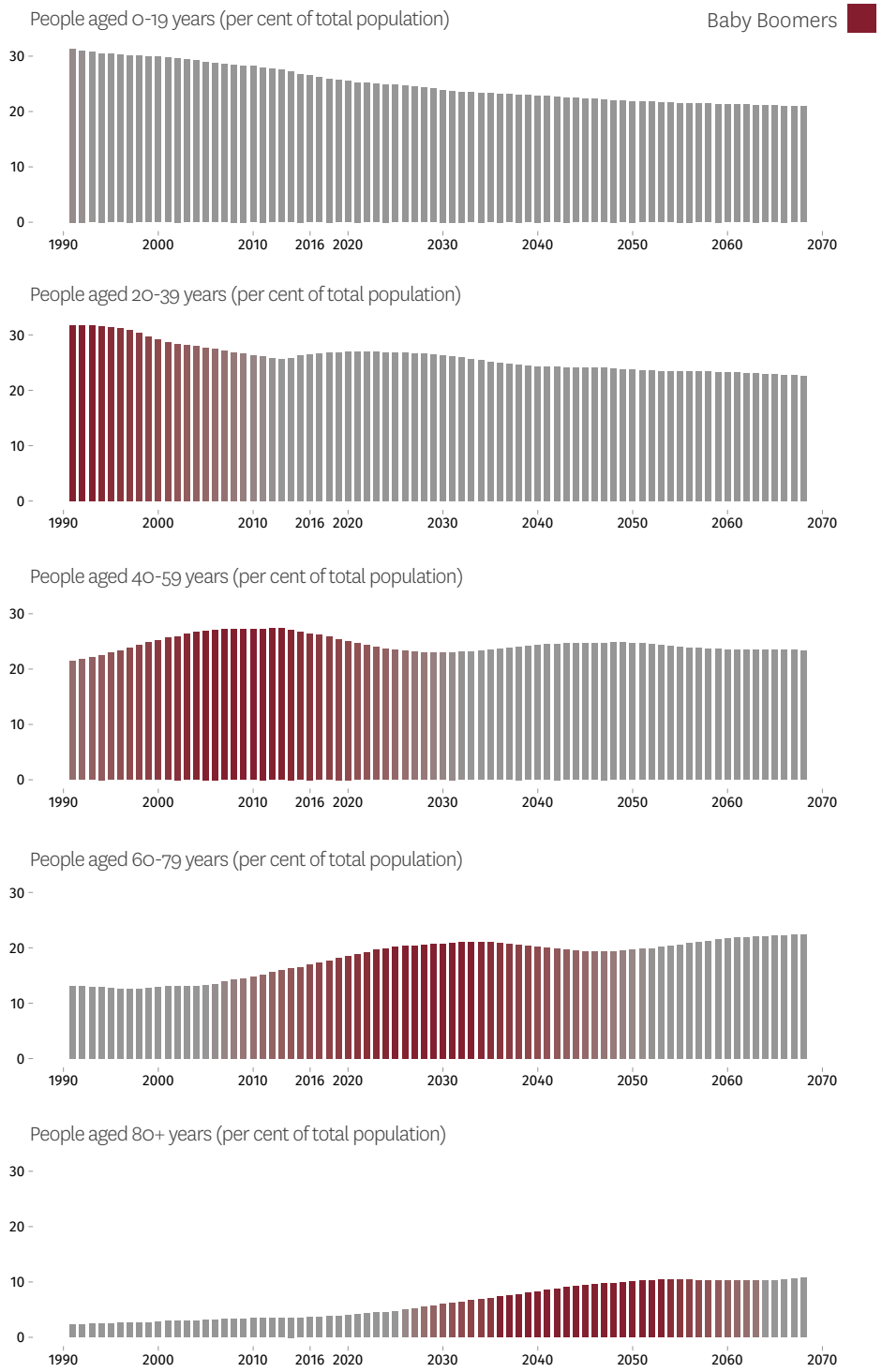
Figure 3.3 illustrates the combination of these two trends as graphs showing the proportion of New Zealand's resident population that is expected to fall within each 20-year age bracket through time. The proportion of total population in each year in a given age bracket is shown on the vertical axis and time is shown on the horizontal axis. Reading from left to right allows us to trace the proportion of the population in each age bracket through time ("baby boomers" are shown in red). While the proportion of our population aged between 40-59 years is expected to remain steady, a clear decline is expected in younger age groups with a clear increase expected across older age groups.

Ageing rates are also expected to be uneven across the regions. Figure 3.4 compares the expected age distribution of people living in Auckland versus Thames-Coromandel in 2013 and 2043. This is an example of a wider trend: rural populations tend to be older than the New Zealand average, while Auckland and other cities have relatively youthful populations.[6]

For a full set of graphs showing this dynamic for each territorial authority, see Appendix B.

3 Statistics New Zealand 'National Population Projections: 2014 to 2068', 28 November 2014.
4 Statistics New Zealand 'National Population Projections: 2014 to 2068', 28 November 2014.
5 See Statistics New Zealand 'The Changing Face of New Zealand's Population'.
6 Jackson, N. (2014). 'Sub-National Depopulation in Search of a Theory – Towards a Diagnostic Framework' New Zealand Population Review, 40:3-39.

Figure 3.3: The age profile of New Zealand's projected population



Source: Schiff Consulting using data from Statistics New Zealand

Figure 3.4: Regional population ageing dynamics

Source: Schiff Consulting using data from Statistics New Zealand

The enduring demographic question is how we support a *changing* population

New Zealand's population has changed in significant ways in the past 50 years, and further change is expected in the next 50 years. Urbanisation and the changing nature of our towns, as well as an aging population, mean that local services and infrastructure will need to adapt to meet future demands.

Based on the available evidence, the baby boomer bulge will move through the population, eventually dissipating and leaving in its wake a declining population. In that case, the enduring question may be in investing in infrastructure and services that can cater to the changing age composition of our communities. For example, the extent of aged care infrastructure and services that will be needed to support baby boomers may not be needed in the longer-term so adaptive measures which provide flexibility to re-purpose housing will be valuable.

< It is difficult, at this stage, to say exactly what the implications will be of the transition from population growth to decline—or at least to the ending of appreciable growth. Having more elderly than children, for example, is a very new phenomenon. However, two things are certain: population ageing will be played out at the local level, and local trends will not simply 'net out'. >

Natalie Jackson, Director, Natalie Jackson Demographics, Adjunct Professor of Demography, School of People, Environment and Planning, Massey University

3.2 Stewardship of our natural environment

New Zealand is facing challenges in sustainably managing its natural environment. These challenges include declining quality of freshwater, and what some have described as a crisis in biodiversity. These are results of both historical and ongoing economic and social activity, and raise enduring questions for communities around how we can promote social, economic and cultural prosperity in ways that align with our vision for environmental prosperity and our responsibilities as stewards of our natural environment.

Our natural environment is being affected by human activity

New Zealand is one of the most well-endowed countries in the world in terms of its natural resources—estimated to be eighth out of 120 countries and second in the OECD. Connected with this, our natural resources play an important part in our economic wellbeing.[7] However, many of our current approaches to harnessing this natural resource wealth are negatively impacting on ecosystems.[8]

< Managing the loss of natural capital in New Zealand relies on not only proactive conservation, but on the sympathetic and effective exercise of statutory duties. Local government are key catalysts of environmental outcomes; the importance of their role can't be understated.>

Marie Brown, Senior Policy Analyst, Environmental Defence Society

Many of New Zealand's native species are threatened, with 32 per cent of indigenous land and freshwater birds having become extinct since human settlement in New Zealand.[9] Ongoing habitat modification and human activity are, in many cases, continuing the circumstances which have caused this loss, and threatening further loss.[10]

Freshwater quality also is a key concern for New Zealand. The Ministry for the Environment reports that in many places we are approaching limits to the quantity of fresh water we are able to take sustainably.[11] In some areas of New Zealand, declines in fresh water quality are creating conditions in which existing ecosystems cannot function in the way they have in the past. In the Waikato and Waipa rivers, for example, fresh water quality has been graded a "C+" by the Waikato River Authority.[12] The quality of water in New Zealand's lakes, rivers, streams, and aquifers is variable, and depends mainly on the dominant land use in the catchment. Water quality is very good in areas with indigenous vegetation and less intensive use of land. Water quality is poorer where there are pressures from urban and agricultural land use. Rivers in these areas have reduced water clarity and aquatic insect life, and higher levels of nutrients (ie nitrogen and phosphorus) and E.coli bacteria[13].

Sustainable development should continue to underpin our decision-making

Sustainability is embedded in New Zealand's legislative and policy framework through the Local Government Act 2002 and Resource Management Act 1991. This reflects the reality that our economy operates within certain environmental limits with finite resources. Ultimately, social and economic activity depends on natural resources (directly or indirectly) and will only be sustainable as long as the environment can support that activity in the future. Our environment also has intrinsic value, and our social fabric and cultural identity are deeply rooted in it. The concept of kaitiakitanga—so central to Te Ao Māori (the Māori world)—is embedded in our resource management legislation, acknowledging our role as guardians of natural resources and ecosystems.

We are yet to agree on how to align environmental and economic goals

The future of New Zealand's economy needs to align with our vision for environmental prosperity. However, we face an enduring challenge in building a consensus as a society about bottom lines for environmental prosperity and the trade-offs required to respect these:

- There are national economic benefits in environmental stewardship, but the incidence of costs and benefits is not shared evenly across New Zealand. For example, most of New Zealand's biodiverse and conservation-rich land is outside of urban centres. While all New Zealanders contribute to the ongoing costs of conservation through national taxes, many regions are 'carrying the load' of biodiversity and environmental stewardship more broadly. These areas are restricted from developing when they otherwise might do so. This suggests that funding models may need to emerge that take into account the benefits of good environmental stewardship in which all New Zealanders share, while evolving to accommodate other shifts like the demographic changes highlighted above.
- Our international image can help us succeed by promoting New Zealand as a tourism destination and an attractive place to live, allowing our exporters to charge premium prices and enabling

7 New Zealand Treasury 'Affording Our Future: Statement of New Zealand's Long-Term Fiscal Position: Natural Resources'.
8 NIWA 'How Clean Are Our Rivers?' 22 July 2010.
9 M. Brown, R. Stephens, R. Peart & B. Fedder (April 2015) 'Vanishing Nature: Facing New Zealand's Biodiversity Crisis' Environmental Defence Society and New Zealand Law Foundation.
10 Department of Conservation 'Threatened Species Categories'.
11 Ministry for the Environment 'Freshwater Quality and Availability' September 2014.
12 Waikato River Authority 'Report Card for the Waikato River and Waipa River' February 2016.
13 Ministry for the Environment, Environment Aotearoa, 2015

our employers to attract highly-skilled staff. However, while these outcomes can help to improve New Zealand's economic prosperity and raise living standards, there are 'feedback loops' on the environment. Tourist activity, for example, needs to be carefully managed to preserve the environment within which it operates.

- We already have a range of regulations and laws that seek to protect the environment. We will need to examine how these regulations and laws interact and the outcomes they produce, alongside considering new tools to deliver the outcomes we want for our environment (for example the use of uniform standards and locally-driven targeted environmental regulations, rates and charges).

- Implementing regulation that aligns economic activity with the vision we have for our environment will call for carefully planned strategies given the contribution of primary industries to New Zealand's economy and the distribution of wealth within it. Agriculture, for example, currently contributes approximately six per cent to national Gross Domestic Product (GDP).[14] Addressing the continued role of primary industries in our economy also presents opportunities to consider whether and how alternative approaches to current farming practices, and diversifying the current primary production mix, have the potential to deliver better environmental outcomes while still achieving economic prosperity and increasing living standards.

< New Zealanders are doing amazing things in developing alternative approaches to farming practices and exporting agricultural technology that improves animal welfare, promotes environmental sustainability, and demonstrates social responsibility. We know consumers internationally value these outcomes, although we have yet to realise our potential in these markets. Developing new ways to capture this value creates the potential not only for economic success but increased alignment between our agriculture sector and our goals for the environment including across fresh water quality and responses to climate change. >

Caroline Saunders, Professor and Director, Agriculture Economics Research Unit, Lincoln University

3.3 Responding to climate change

< New Zealand is being affected by climate change and impacts are set to increase in magnitude and extent over time. >

Professor James Renwick, Chair, Royal Society of New Zealand Expert Panel on Climate Change: Implications for New Zealand

Climate change is already impacting how our communities live and function, and these impacts are expected to increase in magnitude and extent over time.[15] We also know that the decisions made today will affect how much our climate changes and our ability to respond in effective ways to a changing climate.

Climate change is transforming our world

New Zealand is already being affected by climate change and this will continue to some extent, regardless of how much we (and the rest of the world) reduce carbon emissions.[16] More widespread outcomes will then depend on the global emissions trajectory.

The current predictions for New Zealand are for:[17]

- **Rising sea levels:** New Zealand sea levels are expected to continue rising to 2050 and continue rising for centuries in all emissions scenarios (just under 1 metre by late this century under a mid-range scenario);

- **Higher temperatures:** Warming is expected to continue (0.8 degrees by 2090 in a low carbon emissions scenario; 3.5 degrees by 2090 in a high carbon scenario), with greater extremes in the temperatures observed;

- **Regional rainfall changes:** Rainfall change is expected to be strongly regional, with increased droughts in the east and north of the North Island. Extreme rainfall is also expected to increase; and

- **More intense tropical cyclones:** New Zealand is expected to experience stronger, but fewer, tropical cyclones.

Future policy decisions will need to take into account the improving evidence base as well as responding to the evolving global emissions trajectory.

14 Statistics New Zealand 'Gross Domestic Product' March 2015.
15 Royal Society of New Zealand 'Climate Change: Implications for New Zealand' April 2016.
16 Royal Society of New Zealand 'Climate Change: Implications for New Zealand' April 2016, p.28.
17 See New Zealand Climate Change Centre 'Climate Change: IPCC Fifth Assessment Report – New Zealand Findings'.

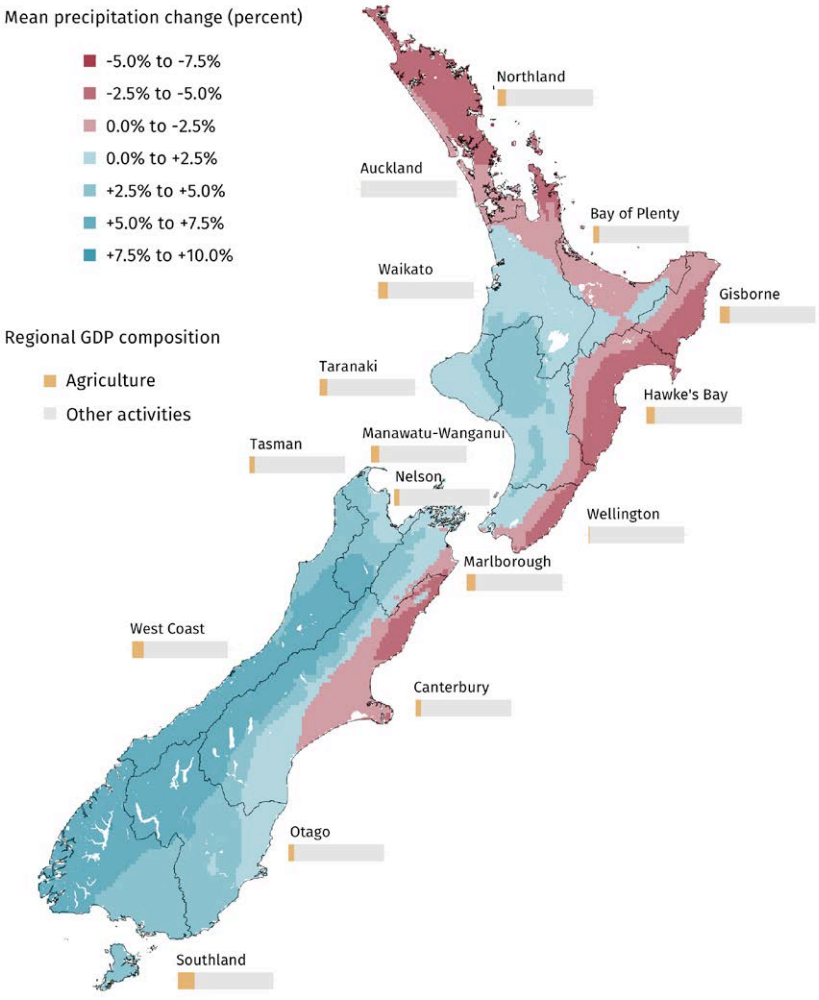
Climate change will have complex and far-reaching impacts on our communities and industries

Some of the expected impacts of climate change include:

- More frequent flooding of settled areas and areas of cultural and historic significance;
- The potential for an influx of climate-induced refugees from neighbouring Pacific nations affected by sea level rise;
- The need to respond more frequently to more damaging natural events including droughts, fires, floods, and tropical cyclones; and
- Changing industry prevalence nationally and regionally for agriculture and other industries directly and indirectly affected by climate change.

A strong theme in these impacts is the unequal ways our communities will be directly affected. Sea level rise clearly affects coastal communities most (although impacts can flow inland along waterways and be felt through a rising water table) and agricultural regions will also be affected in different ways. Some of the direct impacts may be positive in some areas, while other areas will suffer from reduced rainfall and prolonged drought. Figure 3.5 overlays the expected impacts of climate change on rainfall patterns with the current prevalence of agriculture throughout the regions.

Figure 3.5: Interaction between agriculture and expected rainfall change



Source: Schiff Consulting using data from NIWA[18]

18 Based on data from Fourth Assessment Report of the Intergovernmental Panel on Climate Change. NIWA will soon publish updated data based on the more recent Fifth Assessment Report.

Action is needed both to mitigate greenhouse gas emissions, and to adapt to a changing climate

We need to respond to climate change now by creating and implementing strategies to:

- Reduce carbon emissions to help reduce the extent of climate change (often known as **mitigation**)—for example by decreasing our reliance on fossil fuels for transport (Section 3.3.1); and
- Reduce the impact of a changing climate on our prosperity (often known as **adaptation**)—for example by supporting or re-settling exposed coastal communities (Section 3.3.2).

Mitigation and adaptation will affect the way New Zealanders live. LGNZ is currently developing a position statement on the role LGNZ sees for local government in responding to climate change.

3.3.1 Mitigating emissions to promote the shared vision for our communities

< We have the potential to make the transition to a low-carbon economy within several decades by taking mitigation actions. While this will have costs, it will also bring benefits and opportunities that need to be considered. We can do it if individuals, households, communities, cities, industries, commercial enterprises and land-users share aspirations and take action. >

Professor Ralph Sims, Chair, Royal Society of New Zealand Expert Panel on Climate Change: Mitigation Options for New Zealand

New Zealand has committed to playing its part in reducing carbon emissions by signing the Paris Agreement on climate change.[19] Under the Paris Agreement, countries including New Zealand are expected to agree to implement measures to achieve net zero carbon emissions by mid-late this century, to hold the increase in the global average temperature to below 2°C. By 2030, New Zealand's stated goal is to reduce emissions to 30 per cent below 2005 levels.[20] Strong targets are necessary if we are to avoid the worst predicted impacts of climate change.[21]

The future will be influenced by the decisions made today – we can help move the world on to a lower emissions trajectory, reducing the extent of climate change and the adaptation required. New Zealand contributes approximately 0.2 per cent of global greenhouse gas emissions (largely through agriculture and transport). New Zealand can contribute to a global reduction through reductions it can make, exporting the technologies and techniques that will be developed in doing so, and the extent to which our actions can help influence other countries to reduce their emissions.

To achieve our goals in reducing emissions, we need to create strategies now

The challenge for New Zealand is to develop strategies now that will not only enable us to meet our international obligations but also in a way that achieves the shared vision we hold for our communities. Domestic climate change policy has made some progress in New Zealand, including with the introduction of a partial emissions trading scheme (that currently excludes agriculture), but we also need new policies and responses now if we are to meet the goals we have set. The infrastructure and other decisions we make now will chart the path for our emissions later this century. There will also be many options for reducing carbon emissions and we face enduring questions in:

- Deciding on which interventions to pursue as a collective since some interventions will have different cost and benefit profiles, and there will be 'winners' and 'losers';
- Deciding the extent of intervention at national, regional, and local levels, and in the private sector, and the relative balance between public-led and market-led solutions;
- Playing New Zealand's part in reducing carbon emissions while maintaining international competitiveness and achieving our vision for our communities;
- Taking advantage of opportunities for co-benefits alongside emissions reduction, for example in public health by promoting cycling and walking for commuter transportation, and in economic development from the greater ability to market New Zealand internationally as responsible environmental stewards;
- Ensuring incentives are set up right for people to pursue economic activities that are aligned with the shared vision we have for our communities; and
- Promoting inter-generational justice. The evidence suggests that reducing emissions more rapidly reduces the overall costs of climate change[22]. Whilst reducing emissions now may impact on current generations, delaying action would result in higher costs and the burden of those costs will fall on future generations.

19 Under the United Nations Framework Convention on Climate Change. Ministry of Foreign Affairs and Trade 'Minister Bennett Signs Paris Agreement' 23 April 2016.
20 Ministry for the Environment 'New Zealand's 2030 Climate Change Target' 29 February 2016.
21 Royal Society of New Zealand 'Climate Change: Implications for New Zealand' April 2016.
22 Intergovernmental Panel on Climate Change 'Assessment Report Five: Summary for Policymakers' at p.12.

< Local government responses to climate change in active transport, healthy and energy efficient housing, low carbon energy and resilient, healthy food systems can all yield significant win-wins for health. But these co-benefits won't come automatically. Food, housing, transport and energy are all complex systems where unintended harms to health and fairness are also a possible consequence of policy choices. This means that taking a systems approach and putting human health and fairness at the centre of decision-making will be crucial for reaping the benefits and avoiding the harms. >

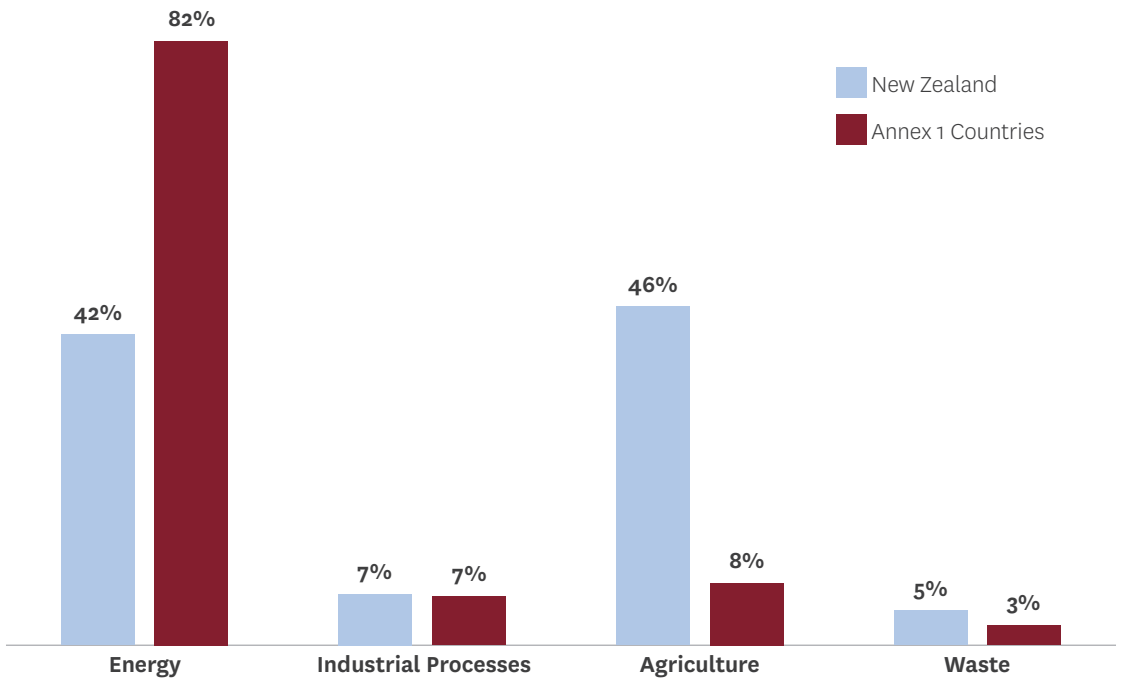
Dr Alexandra Macmillan, Public Health Physician and Senior Lecturer, Environmental Health, Department of Preventive and Social Medicine, University of Otago

New Zealand also faces different challenges to other countries in reducing carbon emissions

New Zealand's most emissions-intensive industries are different to many other developed countries, creating unique challenges for New Zealand in reducing emissions. Figure 3.6 shows emissions by sector for New Zealand compared with 'Annex 1' countries—those considered by the United Nations to be developed countries. New Zealand has half the emissions from energy and six times the emissions from agriculture than the Annex 1 average.

Our unique emissions profile should not be used as an excuse for failing to take action. While international experience with reducing emissions will be an important part of the evidence base for New Zealand's strategy to reduce emissions and adaptation costs, these data suggest that we will have to create strategies tailored to our situation to achieve our vision for our communities. Reducing emissions at the national level involves reducing emissions at the local level. Some of our regions are already showing leadership in creating strategies for mitigating emissions. We need to acknowledge the contribution of these regions in charting a path

Figure 3.6: New Zealand's greenhouse gas emissions by sector v Annex 1 average



Source: United Nations 'Greenhouse Gas Emissions Profiles for Annex 1 Parties'.

toward a low carbon New Zealand, including those by Auckland,[23] Wellington,[24] Waipa,[25] and Dunedin.[26] We must also acknowledge the contributions of central government, including through the Ministry of Transport's work on the future of low-carbon transport.[27]

3.3.2 Carefully-planned strategies will be needed to adapt to a changing climate

We also face an enduring question in how we can achieve the vision for our communities while adapting to the impacts of a changing climate. Key facets of this problem are discussed below.

Communities will be differently affected by climate change. Some in our communities will be heavily affected, while others may experience few direct effects at all. The stark differences in how our communities will be affected prompts questions around how the burden of climate change adaptation will be shared and what the level and nature of national, regional and local support for affected communities and neighbourhoods should be.

Should exposed coastal communities face the cost of damage to property and infrastructure and potential resettlement? What if someone moved there when it was clear the area would no longer be liveable? What about a farmer going out of business from drought? These decisions need to be made in a consistent way—and with adaptation required right now, the future implications of 'precedent-setting' actions must be understood and taken into account.

People will also be differently affected through time with future generations inheriting the world of their predecessors. The extent to which adaptation is financed through public debt, for example, will shift the burden onto future generations.

Adaptation will require large amounts of resources that need to come from somewhere. If we approach adaptation with an 'emergency' mind-set, there are risks that we divert resources from other activities in ways that are inconsistent with the shared vision for our communities.

Public support for communities must be designed in ways that support incentivising them to minimise their exposure and vulnerability to climate change. We want communities to take the steps they can to lessen the impact of climate change on them and in turn, the resources required for adaptation. Support, therefore, needs to be carefully designed so that it does not undermine this goal. For example, if coastal land occupiers are guaranteed full relocation at no cost, then people may not move away from the coast as quickly or at all. This principle also extends far beyond coastal communities—for example into the changing viability of agricultural businesses affected by rainfall.

Enabling people to respond to incentives requires providing information on how a changing climate will affect them. Public, academic, and private sector-led research efforts are underway (for example on the localised impacts of sea level rise), but more work will be required to translate this information into the implications for individuals and to support them in the decisions they can make.

Beyond information, there is a growing body of literature suggesting that people's behaviour and response to incentives can be different to what might be expected—and is significantly shaped by context.[28] We also need to ensure that interventions are designed to take into account these behavioural insights.

All the above challenges would arise even if we had perfect foresight of what the impacts of climate change could be. An added challenge is, therefore, that we do not (and will not in the future) have full certainty on:

- The evolving local and global carbon emissions trajectory that will play a defining role in the extent of climatic impacts our communities will face; and
- The precise climatic impacts and when they will occur given the complexity of predicting them. This is particularly so of 'threshold' effects and irreversible outcomes.

Adapting to climate change will, therefore, call for decision-making frameworks that explicitly address uncertainty, and put emphasis on the value of having flexibility to adopt courses of action that can evolve with new information. This is discussed further in Section 4.2.

23 Auckland Council 'Low Carbon Auckland: Auckland's Energy Resilience and Carbon Action Plan' July 2014.
24 Wellington City Council 'Draft 2016 Low Carbon Capital Plan'.
25 Waipa District Council 'Our Future Decided: The Path Ahead for Waipa – 10-year Plan 2015-2025.
26 Dunedin City Council 'Emissions Management and Reduction Plan', 17 February 2015.
27 Ministry of Transport 'Transport Futures'.
28 See, for example, OECD 'Behavioural Insights and New Approaches To Policy Design: The Views From the Field' 23 January 2015.

3.4 The future of work

We face the potential for significant changes in the types of work our communities do and the way they do it. Automation is a key potential catalyst for this change. Automation holds the prospect of producing more with less—improving our standard of living. While we should embrace that change, it also raises enduring challenges in increasing our economic prosperity in a way that aligns with our vision for social prosperity, with all New Zealanders given the opportunity to prosper.

< Automation promises a brighter future for all of us in increasing our productivity and international competitiveness. Automation offers the potential to transform our forestry sector, for example, where in Gisborne it is enabling us to compete internationally in the processing of raw logs into consumer products. By moving us into the value-add and using our kiwi ingenuity, automation can help us capture more of the value chain and improve our economic prosperity—particularly for our regions. This automation would not be at the expense of jobs, in fact it will add jobs. At present unprocessed logs are exported. Under automation these are sawn into smaller pieces and then glued together to make structural engineered timber which returns a much higher prices for our forest investments. >

Stephen Tindall, Founder of The Warehouse and the Tindall Foundation, Philanthropist and Investor

Automation has had widespread impacts on how our communities work and live

Automation is the replacement of human labour with machine labour. We can think of this widely as including everything from the mechanisation of manufacturing processes, the advent of transport technologies like steam and fossil fuel-driven road and rail, right through to computer processing.

Automation clearly causes a loss of jobs in the task being replaced. However, automation increases jobs in the industry doing the automation. In the past 30 years, computers have replaced many functions, including the role of thousands of bank employees that manually processed banking transactions. However, the decline of these kinds of jobs has come with a growing ICT sector that delivers and supports computers and computing services. The greater productivity from automation can also increase jobs in the wider economy.[29]

While the impacts of automation on labour markets are challenging to tease out, the skills needed to get a job are changing

Advances in automation in the last 30 to 50 years have proceeded alongside the widespread market reforms of the 1980s, a series of financial crises, major change in the global markets we supply, among many other factors. Over this time, there does not appear to have been any overall trend in unemployment over this period (increasing or decreasing)—let alone one that can be attributed to automation.[30] One thing that does seem clear, though, is that automation is changing the skills that individuals need to find work. In addition, many of the skills needed now are not like those needed in the past—creating challenges for workers to re-train. The ICT sector as we now know it, for example, did not exist 50 years ago—and it now reports the highest rates of job vacancy in New Zealand.[31]

There seems to be widespread agreement that automation will continue to change the skills we need. However, the extent of that change is the subject of greatly differing perspectives. Some have suggested that the pace of technological change now is ten times that experienced in the industrial revolution and that 46 per cent of New Zealand jobs are at high risk of automation in the next 20 years.[32] Others caution that the pace of technological change has historically tended to be overstated and that the predictions of the past have yet to come true.[33]

It is clear that automation will continue (along with wider technological change) and that it will continue to pose challenges for our communities. Automation raises the enduring question of how we can ensure we have the right education systems in place to both help existing workers adapt to changes in skills required and to ensure that future generations are equipped with the skills they need to lead happy, healthy lives. It also raises the question of how New Zealand communities can get the most from technology. Technology will play an important role in enabling our shared vision of prosperity to be achieved through:

29 Autor, David H. 2015. "Why Are There Still So Many Jobs? The History and Future of Workplace Automation." Journal of Economic Perspectives, 29(3): 3-30.
30 Statistics New Zealand in 'Brian Easton. 'Economic history - Government and market liberalisation', Te Ara - the Encyclopedia of New Zealand, updated 27-Apr-16'.
31 Ministry of Business, Innovation and Employment 'New Zealand Sector Report Series: ICT', 2015, at p.37.
32 Chartered Accountants New Zealand and the New Zealand Institute of Economic Research 'Future Inc: Disruptive Technologies, Risks and Opportunities—Can New Zealand Make The Most of Them?'.
33 Author, David H. 2015. "Why Are There Still So Many Jobs? The History and Future of Workplace Automation." Journal of Economic Perspectives, 29(3): 3-30.

- New ways to manage environmental impacts;
- New ways to learn and access knowledge;
- New opportunities to interact and increase civic awareness and participation; and
- New opportunities to communicate with each other – irrespective of socio-economic status.

Beyond skills, changes in the way we work raise questions for social cohesion

New Zealanders also are reporting that they are changing the ways they work. While the decades since World War II saw an expansion of those in full-time employment, some have suggested that in the last 30 years New Zealand has seen a de-standardisation of work.[34] 'De-standardisation' refers to people moving into part-time, fixed term or contracting jobs, or working multiple jobs. Statistics New Zealand reports that one third of New Zealand's working population now work in non-standard jobs.[35]

The future trends for the way we work are unclear. However, we will need to monitor the way working arrangements develop and better understand the issues that can raise. Non-standard jobs can create flexibility for both workers and the firms they work for. In some cases, this can come with increasing social prosperity; for example, the extent to which jobs are becoming more flexible for those raising children. However, there are also risks for equality and social cohesion where non-standard jobs are not taken out of choice. A survey undertaken by Statistics New Zealand found that around half of those in temporary work would have preferred being in full-time employment.[36]

While people should be free to work in the ways they choose, we need to ensure that our policy settings, and the influence they have on the job market, provide appropriate protection of worker rights.

3.5 Equality and social cohesion

< Diverse and pluralistic communities have to work harder to maintain a strong sense of social cohesion, especially in the face of social and economic forces, such as radically different work opportunities, that push communities apart. Nevertheless, social cohesion brings with it a sense of belonging within and investment in one's community that in turn pays dividends in terms of health and social outcomes. >

Peter Crampton, Pro-Vice Chancellor, Division of Health Sciences & Dean, University of Otago Medical School

Shifts in equality and social cohesion primarily affect our achievement of social prosperity, although they are linked with achieving all aspects of the shared vision. The three shifts discussed in this section are:

- Existing and potential trends in equality;
- Changes in ethnic composition; and
- Inter-generational justice.

3.5.1 Current trends and potential drivers of changes in equality

Inequality affects our ability to achieve the shared vision for our communities by producing a range of negative flow-on consequences. Inequality risks reducing social cohesion and weakening social bonds.[37] We need to define what type of equality we seek to achieve, and to better understand the available data and develop strategies to address the root causes of inequality.

What aspects of equality form part of our vision for social prosperity?

Equality can mean different things and we need to build a consensus on what types of equality matter.[38] **Equality of outcomes** ensures that all have the same level of resources regardless of the way they contribute to society. **Equality of opportunity**, on the other hand, ensures that people all have the same opportunities and are equally empowered to succeed. One of the consequences of rewarding

34 Spoonley, P, Dupuis, A, and de Bruin, A (eds) (2004). Work and Working in Twenty-First Century New Zealand. Palmerston North: Dunmore Press.
35 Spoonley, P, Dupuis, A, and de Bruin, A (eds) (2004). Work and Working in Twenty-First Century New Zealand. Palmerston North: Dunmore Press.
36 Statistics New Zealand 'Flexibility and Security In Employment: Findings from the 2012 Survey of Working Life', at p.13.
37 Max Rashbrooke 'Inequality.Org: Understanding Inequality'.
38 Sen. A (1992), 'Inequality Re-Examined', Oxford University Press, New York.

people for their contributions is at least some level of inequality in outcomes. On the spectrum between these two options there are middle-grounds which, for example, prioritise equality of opportunity but ensure all have a specified minimum level of income. It may be possible to aim for equality of outcomes in some areas while promoting equality of opportunity in others.

On the two most common measures, equality of outcomes has decreased in the past 40 years

< As Robert Putnam's seminal work Bowling Alone shows, the effects of social ties and bonds—especially in reducing stress—are so strong that moving from an area high in social cohesion to one that is low in social cohesion is as bad for your health as taking up smoking. >

Max Rashbrooke, author, academic and journalist

We face challenges in identifying what measures of equality are most useful, and the way inequality relates to outcomes like health and education. Measures like income can be problematic. Those with the lowest income represent both the poorest and richest in society – because of the way incomes are reported. More than 10 per cent of people on the minimum wage also live in a household in the top 10 per cent of incomes.[39]

Leaving aside these challenges, the most-used measures of inequality are incomes and the concentration of wealth. On these measures, inequality in New Zealand increased between the 1980s and 1990s, although it has either not significantly changed or declined[40] [41] since then.

Ethnic dimensions of inequality need to be addressed

Analysing social and economic outcomes by ethnicity highlights an even greater degree of inequality across New Zealand communities. Poverty and incarceration rates for Māori and Pasifika people are significantly higher than national averages.[42] Similar statistics are observed across education pass rates[43] and other key indicators of prosperity and social mobility. We face an enduring question in how we address this ethnic dimension to inequality.

The future trend in inequality is unclear but the shifts discussed in this report have significant potential to impact inequality

Many of the shifts discussed in this report, and the way we respond to them, have the potential to make New Zealand more or less equal:

- Māori and Pasifika communities are over-represented in many outcome-focused measures of inequality. They are also set to grow as a percentage of New Zealand society. We need to ensure the systems we have set up are tackling this ethnic dimension to inequality, which has the potential to get worse;
- Many coastal communities are wealthy, although not all are, such as South Dunedin.[44] Since coastal communities will be some of the worst affected by climate change, climate change might exacerbate extreme poverty for those poorer coastal communities which do not have the financial resources required to relocate; and
- Many of the jobs considered to be at the greatest threat of automation are lower-skilled, lower-paid jobs.

3.5.2 Changes in ethnic composition

Ensuring that changing ethnic compositions are embraced calls for a greater understanding of how we can retain cultural heritages while promoting broader social cohesion.

Statistics New Zealand expects the ethnic composition of our communities to change

By 2038, Statistics New Zealand project that national ethnic compositions are likely to change significantly—as shown in Table 3.1. This is expected to come from migration (particularly to Auckland) and through differing net birth rates by ethnicity.[45]

These are at a highly aggregated level and include many diverse ethnicities. In addition, people can identify as more than one ethnicity. However, they suggest the face of New Zealand will change.

Sub-regional ethnic change is also expected. By 2038 the percentage of people in Manurewa identifying as European is expected to drop from 62 per cent to 17 per cent —largely replaced by those identifying as Māori and Pasifika. Changes of a similar magnitude can also be found in many other parts of the country – three parts of the Auckland region expecting significant change are shown in Figure 3.7.[46]

39 NZIER 'Understanding Inequality: Dissecting the Dimensions, Data and Debate' November 2013.
40 Rashbrooke, M. in Radio New Zealand 'Opinions Mixed on Income Inequality' 18 September 2014.
41 NZIER 'Understanding Inequality: Dissecting the Dimensions, Data and Debate' November 2013.
42 See Marriott, L and Sim, D. (2014). 'Indicators of Inequality for Māori and Pacific People' Victoria University Working Papers in Public Finance.
43 Ministry of Education 'Māori Participation and Attainment in NCEA'
44 South Dunedin has been identified by the Parliamentary Commissioner for the Environment as "the most troubling example" of high groundwater levels in the country. See: Parliamentary Commissioner for the Environment "Preparing New Zealand for Rising Seas: Certainty and Uncertainty" November 2015.
45 Statistics New Zealand 'National Ethnic Population Projects: 2013 to 2038', 21 May 2015. Note that people may identify with more than one ethnic group, so these compositions will not add to 100 per cent.
46 Statistics New Zealand 'Subnational Ethnic Population Projects: 2013-2038', 30 September 2015.

Table 3.1: Projected National Changes in Ethnic Composition

	2013	2038	Change (%)
Māori	16%	20%	25%
Asian	12%	21%	71%
Pasifika	8%	11%	40%
European and Other	75%	66%	(12%)

Source: Statistics New Zealand

Ethnic change of the nature predicted by Statistics New Zealand can pose challenges in promoting social cohesion while enabling ethnic groups to celebrate and express their cultural heritage. Some have suggested that socioeconomic inequalities tend to negatively impact ethnic relations[47]—so, increasing ethnic diversity may increase the challenges of inequality discussed above.

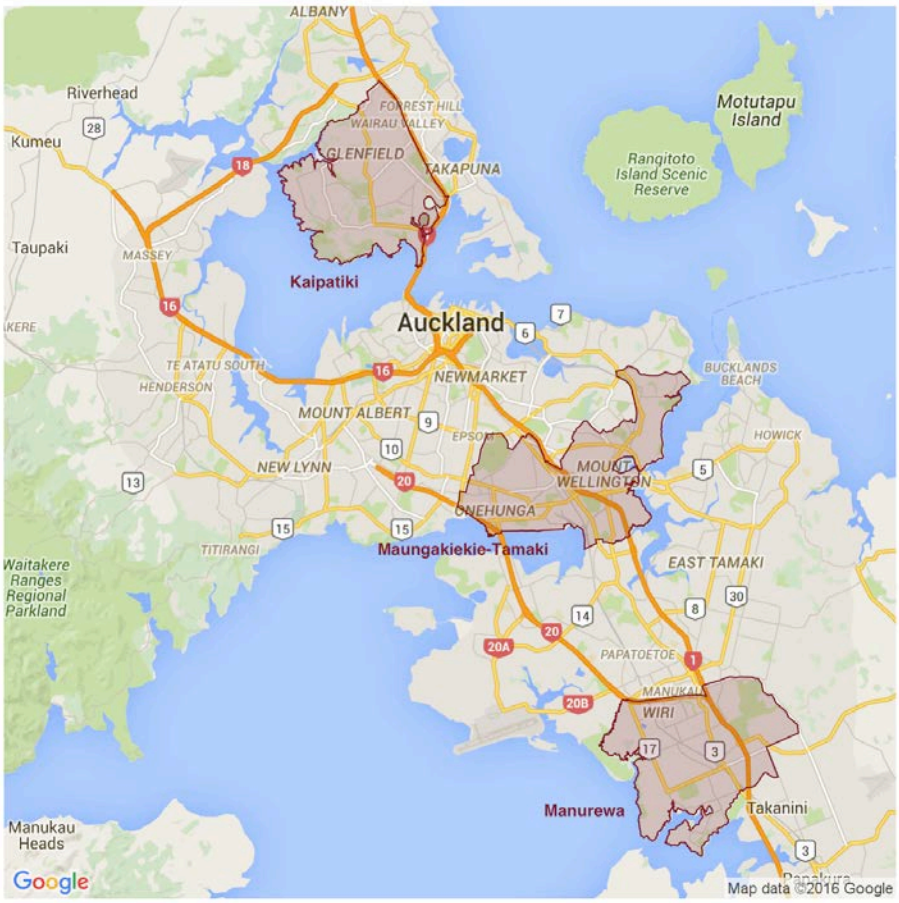
3.5.3 Promotion of social cohesion across generations

Inter-generational justice is being brought into focus by ageing populations, climate change, and population concentration in cities. Since decisions that achieve greater welfare overall may impose additional costs on those living now, there are tensions between the interests of different generations through time. An added challenge is that the generations currently living have the power to affect the outcomes of future generations—but not the other way around. This creates risks of resentment and a decline in cohesion across age groups. Challenges in this area include:

- Ensuring actions taken to mitigate and adapt to climate change take into account the importance of inter-generational justice;
- Ensuring that urban planning rules are fair for future generations and sustainably accommodate projected population increases; and
- Ensuring housing is affordable and that housing for elderly populations maximises the opportunity they have to contribute to our communities and be involved in their children's lives.

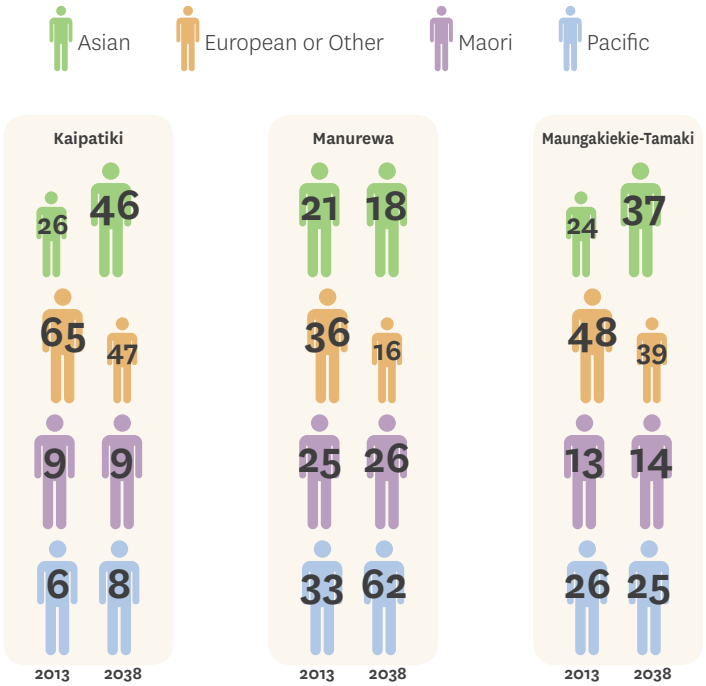
47 Ward, C., & Liu, J. (2012). 'Ethno-Cultural Conflict in Aotearoa/New Zealand: Balancing Indigenous Rights and Multicultural Responsibilities'.

Figure 3.7: Auckland region resident populations identifying with major ethnicities



Source: Google; Schiff Consulting using data from Statistics New Zealand

Resident population identifying with major ethnicities (per cent): projections to 2038



Source: Statistics New Zealand. Note that the graphics are not to scale.

4

Impacts on decision-making

Impacts on decision-making

The key shifts and enduring questions identified in Section 3 can be daunting, which creates the risk that decisions are simply "too hard" to make. But decisions need to be made across the public and private sector and failing to act will clearly not create the prosperous communities we want to create.

One of the contributions of the 2050 Challenge work stream is to look across the shifts and identify common challenges in how we make decisions. In this section, we outline five common challenges we think the shifts identified in this report create for decision-makers of all types:

- Taking a 'whole of systems' approach to policy and planning (Section 4.1);
- Responding to unequal impacts (Section 4.2).
- Responding to uncertain and dynamic shifts (Section 4.3);
- Creating buy-in and increasing civic participation (Section 4.4); and
- The need to define our communities in constructive ways (Section 4.5);

Section 5 then lays out LGNZ's next steps for developing the debate on what these shifts mean for local government and asks for your feedback on this Issues Paper.

4.1 Taking a 'whole of systems' approach to policy and planning

The shifts discussed in this paper have diverse and complex interactions. Achieving the shared vision for prosperous communities relies on all decision-makers (central and local government, public and private sector) taking a 'whole of systems' approach to responding to the shifts that recognises these interactions.

This is not a new concept – many councils have already developed and are continuing to develop new models of coordinated approaches to strategy, policy, planning and governance. However, the scale of the coordination needed appears to be growing and we need to share experience to develop better models.

Shifts have diverse and complex interactions

To take a 'whole of systems' approach we need to develop a clear picture of how the shifts interact. The main types of interaction between shifts can be grouped as follows:

- **Changes that have cumulative or offsetting impacts.** Climate change adaptation and automation might both increase inequality, depending on how we respond to them. We need to identify the impacts shifts may have and consider how those impacts create greater challenges or offer potential solutions.
- **The potential to respond to multiple shifts simultaneously** and avoid situations where 'single-track' responses reduce our ability to respond to other shifts effectively. While shifts differ, they can have common 'sites' of interaction. For example, urban planning rules are shaped by our responses to shifts including demographic change, climate change and inequality. If we change urban planning rules to respond to demographic change, we should ensure these new rules are simultaneously responding to climate change and inequality.
- **Responses that deliver co-benefits across several dimensions of the shared vision for our communities**. For example, developing rules that improve the sustainability of denser housing can have public health benefits—both in the quality of built environments and increasing walking and cycling. These co-benefits can further strengthen the policy justification for responding to shifts, helping to build consensus for action.
- **Responses to a shift may reduce** our ability to respond to other shifts and/or can create challenges in promoting other dimensions of the shared vision for our communities. While we should aspire to achieving the shared vision across all four dimensions of prosperity, we are likely to face trade-offs in specifically how we do so. We need to ensure that we make those decisions through broad and inclusive civic participation (discussed in Section 4.4).

We need to develop approaches that make these identified interactions part of the conversation

Developing 'whole of systems' approaches to responding to shifts will call for highly effective methods of cross-sectoral and local/national engagement and coordination. This includes:

- Communication between stakeholders;
- Coordination between local and central government—and key government agencies; and
- Coordination between public bodies and other stakeholders, including community groups, interest groups, and the business community.

There are existing models of this kind of collaboration within and between local councils already. We will also need to share experiences of these models.

4.2 Responding to unequal impacts

The story of the shifts discussed in this paper is one of unequal impacts. How we respond to these unequal impacts will significantly shape our identity and values—and reveal a lot about how we define our communities.

Unequal impacts are the rule rather than the exception

Almost all the shifts discussed in this paper either inherently have unequal impacts or can have unequal impacts depending on how we respond to them—analysed in Table 4.1.

Table 4.1: The unequal impacts of shifts facing our communities

	Dimensions with unequal impacts
Urbanisation	• Absolute population levels and projected growth and decline differ greatly throughout the regions • How areas of population growth accommodate population increases can affect relative living standards and the distribution of wealth — for example increasing tenant protections or re-zoning land • How areas of declining population fund infrastructure to the extent local rates are below the levels necessary to recover costs
Ageing	• How the burdens of supporting the elderly are shared: - Within communities - Across communities given ageing profiles are highly localised and in some cases are deliberately so — for example areas that market themselves as places to retire - Across successive generations
Climate change adaptation	• The effects of climate change can be highly regional — particularly sea-level rise (coastal communities), changes in rainfall, and the occurrence of natural disasters (drought, flood and tropical cyclone). They can be so unequal, in some ways, that some communities will experience some positive effects — for example in improving the viability of farming • The extent of private, local, regional and national sharing of the burdens of adapting to a changing climate
Climate change mitigation	• The differing opportunities and costs of reducing emissions in different sectors • The emission sources we choose to target in reducing emissions • The extent of private, local, regional and national sharing of the burdens of reducing emissions
Automation	• Some industries are at much higher risk of automation than others • Many of the industries at risk of automation tend to be those with lower-skilled, lower-paid jobs
Non-standard jobs	• Industry characteristics strongly affect the prevalence of non-standard jobs • Those in non-standard jobs include those valuing flexibility and running their own businesses, as well as poor and vulnerable members of society
Equality	• New Zealand is not equal in opportunity or outcome—and the relative significance of the two depends on our vision of social prosperity. Inequality also has ethnic, gender and religious dimensions
Ethnic change	• Ethnic change is expected to be strongly regional
Civic participation	• Civic participation rates differ by age, gender and ethnicity
Māori co-governance	• Differing models provide differing outcomes in the nature and extent of Māori involvement

Responding to unequal impacts calls for inclusive and consistent decision-making frameworks

To answer how we should respond to the unequal impacts that shifts generate, we have to first know what our vision is for equality. This includes the types of equality (opportunities or outcomes) we want to prioritise. We then need to ensure that we recognise equality concerns that shifts present and make decisions consistent with our priorities.

We will need to review existing mechanisms and potentially design new ones to implement our responses to unequal impacts

Many of the unequal impacts of shifts discussed in this Issues Paper will already be addressed in some way through existing mechanisms. For example, the general 'safety net' of welfare benefits applies to people experiencing the worst of shifts—like those who become 'domestic climate refugees'. However, whilst these measures may mitigate the worst impacts, they may not be fully consistent with our vision for social prosperity. In addition, responding to some shifts may require new mechanisms—like a national biodiversity levy or a climate change levy that funds broad compensation tools for those affected by climate change. In developing strategies to respond to these shifts, we will need to carry out a 'regulatory stocktake' to identify ways the existing mechanisms need to be enhanced to align with the shared vision.

4.3 Responding to uncertain and dynamic shifts

All of the shifts discussed in this paper are uncertain—and many will occur over time. This uncertainty needs to be embedded within dynamic processes that are receptive to, and capable of, incorporating an evolving evidence base.

Incorporating uncertainty into planning models

There are different forms of uncertainty. For example, predicting outcomes in the context of evolving climate science is a challenge in devising an agreed response to climate change. In contrast, getting agreement on the 'measurement of the problem' is difficult in understanding phenomena like social cohesion.

Of course, our communities already deal with uncertainty, so this is not a new challenge. However, the extent of uncertainty highlighted in this paper suggests that we will need to reflect on whether there are ways we can improve our approaches to making decisions under uncertainty. LGNZ's view is that decision-making frameworks that manage uncertainty well do the following:

- Recognise uncertainty where it exists—including its extent and significance in the context of the outcomes we want for our communities;
- Gather information to understand likely trajectories and scenarios for outcomes, including concepts of risk management;
- Understand the indicators that are likely to show which trajectory or scenario is playing out in practice;
- Identify options that specifically recognising the value of flexibility in options to modify actions over time and respond to an evolving evidence base;
- Evaluate those options and the ways they promote the shared vision for our communities
- Formulate policy and implement decisions based on the best available evidence and recognising the value of flexibility; and
- Monitor the indicators of how uncertainty is playing out and develop an 'ongoing portfolio' view of areas of uncertainty.

'Valuing-in' the flexibility of options can mean making tough decisions now for longer-term benefits. For example, building a sea wall with stronger foundations that can be extended later may be less costly than building a cheaper wall that would need to be fully replaced.

The real challenge for decision-makers and their officials and advisors is then to integrate new information as it becomes available. This will allow us to make "no regrets" decisions – which may be larger projects that pre-emptively adapt to future consequences, or incremental investments that preserve options for a future time when better evidence is available.

Incorporating dynamism into planning models

Even if we had perfect certainty on the shifts discussed in this paper, we would still face the challenge of responding to their gradual and evolving nature. For example, we cannot simply plan for population expansion out to a defined date in the absence of considering what comes afterward. We need to consider how we make incremental decisions to maximise our achievement of the shared vision over time. This is also true of shifts like population ageing and climate change.

Technology is a major contributor to both uncertainty and dynamism

Technology has contributed to profound changes in the look, feel, location and size of our communities. Early Pākehā settlement in New Zealand was enabled by transport technology, and refrigeration technology heralded the expansion of our agricultural exports.

However, we can only expect technology to cause profound change through its interaction with community desires—whether existing

or in response to technological possibilities. For example, New Zealand's population has been concentrating in cities. Declining transport costs and increasing technological connectivity might have been expected to cause the opposite.

In planning for technological uncertainty and dynamism, we need to specifically consider how technology interacts with the diverse preferences of those in our communities. This includes behavioural interactions with:

- **Ways we want to get from A to B.** The relative degree of preference for public versus personal or semi-personal transport is still evolving, especially in response to technological shifts and associated new business models (like ride-sharing applications).[48] This factor is essential for transport strategies and urban planning rules given it can significantly change what patterns of settlement better support community needs. Since public transport tends to work best in 'hub and spoke' models that can benefit from concentrated usage on 'artery' routes, urban development patterns promoting public transport (like bus lines) look different to those promoting highly-utilised personal or semi-personal transport (which can be less 'hub and spoke').
- **Where we want to live.** While existing projections are consistent with most people desiring a city life, the lifestyle attraction of the regions combined with developments in transport and communications technology have the potential to significantly change New Zealand's pattern of settlement. This has the potential to reduce or even reverse projections of urbanisation.

4.4 Creating buy-in and increasing civic participation

Addressing the shifts identified must involve broad, inclusive civic participation. For example, developing strategies to respond to climate change that recognise the need for intergenerational justice must involve youth in decision-making. The recent trend of Council amalgamations raises questions about how we maintain (and enhance) people's sense of belonging and connectedness with their representatives. Decision-making entities should represent the diversity of our communities and reflect the unique relationship between iwi and the crown established by The Treaty of Waitangi.

Civic participation is declining at both the national and local levels

Despite the importance of involving all New Zealanders in these decisions, we face challenges in ensuring that all New Zealanders are represented at both national and local levels. This extends beyond turnout in elections to participation in the full range of ways in which public bodies make decisions. As one measure, though, voter turnout at the **national level** has steadily declined over the past 12 elections—each election approximately 1 per cent less of the population have voted. In absolute terms, voter turnout in four of the last five national elections was below 80 per cent. The trend at the **local level** is less conclusive, although in absolute terms, turnout in 2013 in local authority elections ranged from 31.6 to 64 per cent.[49] It is unclear whether these trends will continue but we should clearly strive for higher rates of voter turnout.

Civic participation needs to reflect communities' diversity

Strategies aimed at increasing civic participation also need to increase the diversity of community members participating. New Zealand and international research has found that local government engagement using conventional consultation models are unlikely to capture representative input—particularly across youth, ethnic and gender dimensions.[50] Since conventional systems do not seem to be achieving this goal, we need new strategies. This may include civics education in schools.[51] It may also include new methods of community participation, for example neighbourhood-level outreach on planning matters. Technology may also play a role in the future, for example in electronic voting. Some of these initiatives are already underway and we encourage those exploring their use to share their experiences.

Diverse models for involving Māori in public decision-making are evolving

We also face challenges in ensuring that all ethnic dimensions of New Zealand are involved in decision making—including Māori as tangata whenua of New Zealand. The increasing recognition of Māori rights and rights to participation in public decision-making is a key part of New Zealand's identity, evolving as it is in the context of Treaty Settlement processes and the crown seeking to redress past wrongs. Against this context, models of co-governance and co-management have been emerging.[52] We need to build experience on how specific models of co-governance are working and generate a conversation about the best ways to structure co-governance to achieve the shared vision for our communities.

48 This is part of the Ministry of Transport's strategic policy programme through its work on Public Transport 2045.
49 Department of Internal Affairs '2013 Local Authority Election Statistics'.
50 Bloomberg, P. 'Opportunities for Dialogue or Compliance with Legislation? An Investigation Into Representation and Satisfaction Levels of Submitters to the 2009 New Zealand Local Government LTCCP Consultations' 2012, Masters Thesis, Massey University, New Zealand, para 6.3.2.
51 Constitutional Advisory Panel 'New Zealand's Constitution: A Report on a Conversation', November 2013.
52 See LGNZ 'Local Authorities and Māori: Case Studies of Local Arrangements', February 2011.

Some models appear to be working well and this experience should also be shared. For example, in the Canterbury Earthquake Recovery Act 2011, Te Rūnanga o Ngāi Tahu were granted the right to have input into the development of the recovery plan for the central business district. Other calls for greater Māori participation in decision-making have been resisted – such as in the recent New Plymouth referendum on creating a Māori ward.

< I was asked by Minister Gerry Brownlee to attend a cabinet meeting held in Christchurch in the months after the February 2011 earthquake. Prime Minister John Key asked me how Ngāi Tahu felt communication with the Christchurch City Council and the Canterbury Earthquake Recovery Authority had been since the earthquakes and my specific words were "I'm waiting for the sky to fall on me". We were very pleased to be included in the many decisions being made at the time. >

Tā Mark Solomon, former Kaiwhakahaere (Chair) of Ngāi Tahu

4.5 Defining our communities in constructive ways

Defining communities is important to ensure that we strike the balance between shared values (for example, at the national level as New Zealanders) and other important decision drivers such as local place-shaping.

This raises the question: what do we mean by communities? An overarching definition of community is the space within which we understand and perceive our achievement of the shared vision or some dimension of it. A community means different things depending on context – it can be highly local, regional, national or global. So, for example, our community for the purposes of parking policy might be the area in which we live and/or work. Our community for the purposes of public transport might be the city or region in which we live. Our community in responding to shifts like climate change might be something defined across scales and levels of interaction: simultaneously local, regional and global.

How we define our communities is changing over time. For example, in much of New Zealand's past, migrant groups coming to New Zealand were more assimilated into the general population. Potential contributors to this outcome may have been the fact that some migrant groups were relatively small and transportation costs to return overseas were high. Tolerance for and acceptance of diversity also plays a key role in social cohesion.[53] These factors may have driven a greater need to adopt a new way of life.

Strategic planning will be needed to embrace changes in ethnic composition in a way that strikes the right balance between broad and local social cohesion. Currently, individual neighbourhoods can be very cohesive but they may rarely interact with other neighbourhoods. Is this cohesion, or is it actually creating a greater number of divided communities?

Conversations about how we define communities also need to include the diverse ways in which current regulatory and funding models shape the way we define our communities and how those funding models may need to evolve to reflect the way we define our communities now and in the future. At the local level, the use by many councils of rate-based models are underpinned by the philosophy that those living locally benefit from infrastructure so they should bear the costs of the infrastructure they use (for example through targeted rating policies). While that approach has clear merit in developing funding models, the shifts discussed in this paper raise other considerations that should be taken into account.

53 Ministry of Social Development 'Diverse Communities: Exploring the Migrant and Refugee Experience in New Zealand', July 2008, at p.107.

5

Next steps

Next steps

Local government is well-placed to contribute to the discussion on how we can create sustainable, prosperous communities. Local government is charged with place-shaping responsibilities and the delivery of local public services, and is explicitly required to take a long-term view when carrying out its functions.

5.1 Questions for consultation

Before turning to analyse what the shifts and enduring questions discussed in this report mean for local government in the next phase of work in the 2050 Challenge, LGNZ is interested to hear your views on the points raised in this paper.

In addition to hearing your general views, and without wanting to limit the scope of your feedback, we are particularly keen to hear from you on the following:

- Are there any additional changes or shifts that are not discussed in this paper that should be incorporated into the discussion?
- Do you have additional perspectives to share on the shifts discussed in this paper? Have we identified the right enduring questions from these shifts? Are there other enduring questions you think they will raise for our communities?
- Is there additional useful evidence we should consider for the shifts discussed in this paper?
- What other challenges do you think the shifts raise for the decisions that are made for our communities?
- What do you think these shifts mean for the roles of different decision-makers, including local government?
- How do you think we should develop the 2050 Challenge work stream?

We intend to take your views into account as we develop our thinking on the shifts affecting our communities and what they might mean for local government. We encourage you to send your feedback to us at:

admin@lgnz.co.nz
Local Government New Zealand
Level 1, 117 Lambton Quay
Wellington

By: 5.00 pm Friday 23 September

If you have any queries please contact Mike Reid: mike.reid@lgnz.co.nz

5.2 Next steps for the 2050 Challenge work stream

The purpose of the 2050 work stream is to identify the major challenges and shifts taking place in New Zealand in order to understand the implications for government, particularly local government, although many of the shifts will require a joined-up response with central government.

Following the analysis of submissions a series of position papers will be prepared looking at the implications for local government of each of the identified shifts and proposing a range of policy and operational responses. These will be used for:

- Briefing incoming councils following the 2016 election;
- Informing LGNZ's medium and long term work programme;
- Providing a basis for joint central local government conversations where either legislative change or central government action is required to address the impacts of the shifts;
- Informing LGNZ's ongoing advocacy programme; and
- Developing the LGNZ 2017 parliamentary elections manifesto.

Appendices

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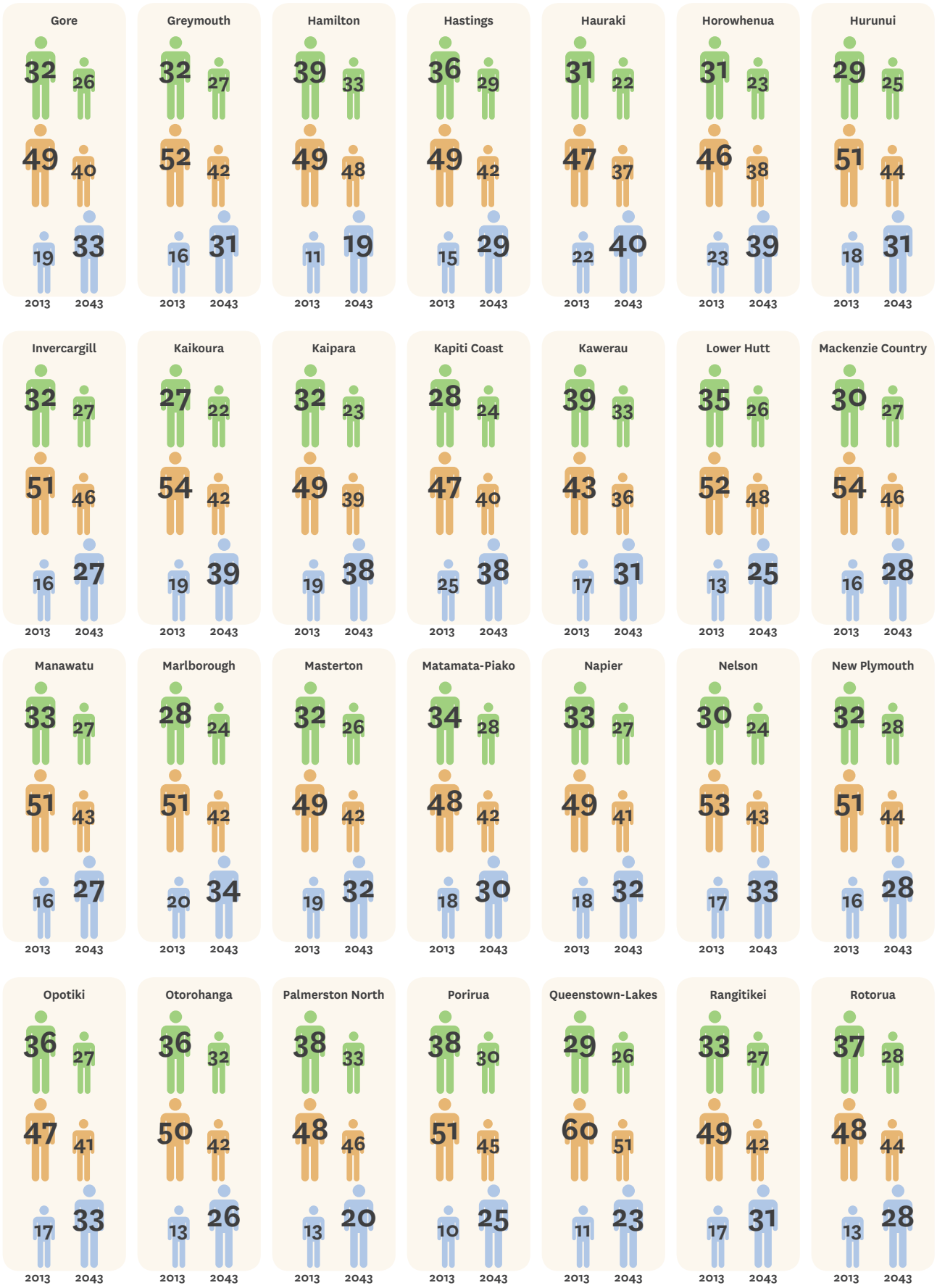
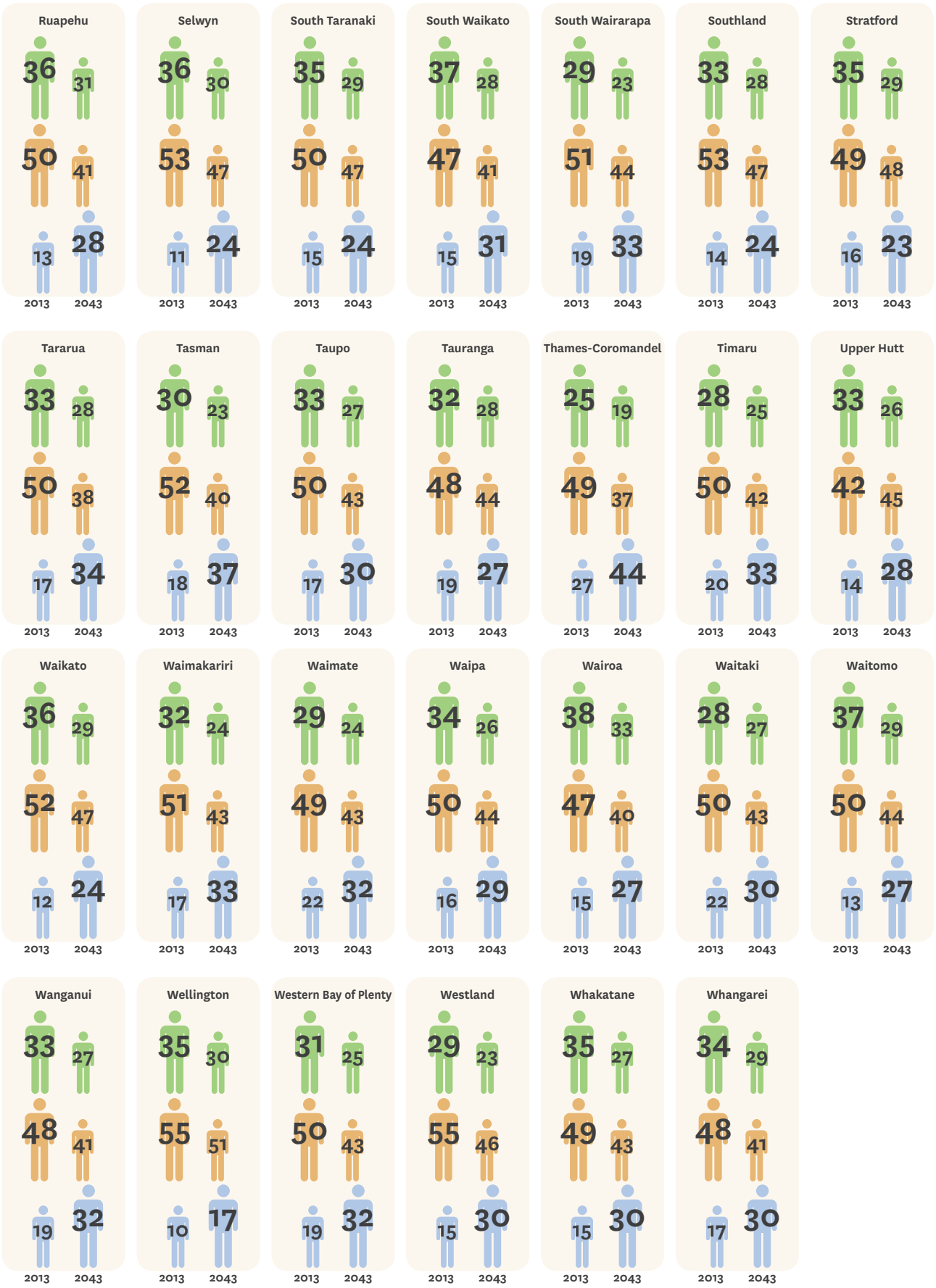
Appendix B: Regional population projections

Figure B: Regional population by age group: projections to 2043 (per cent)

Source: Statistics New Zealand. Note that the graphics are not to scale.



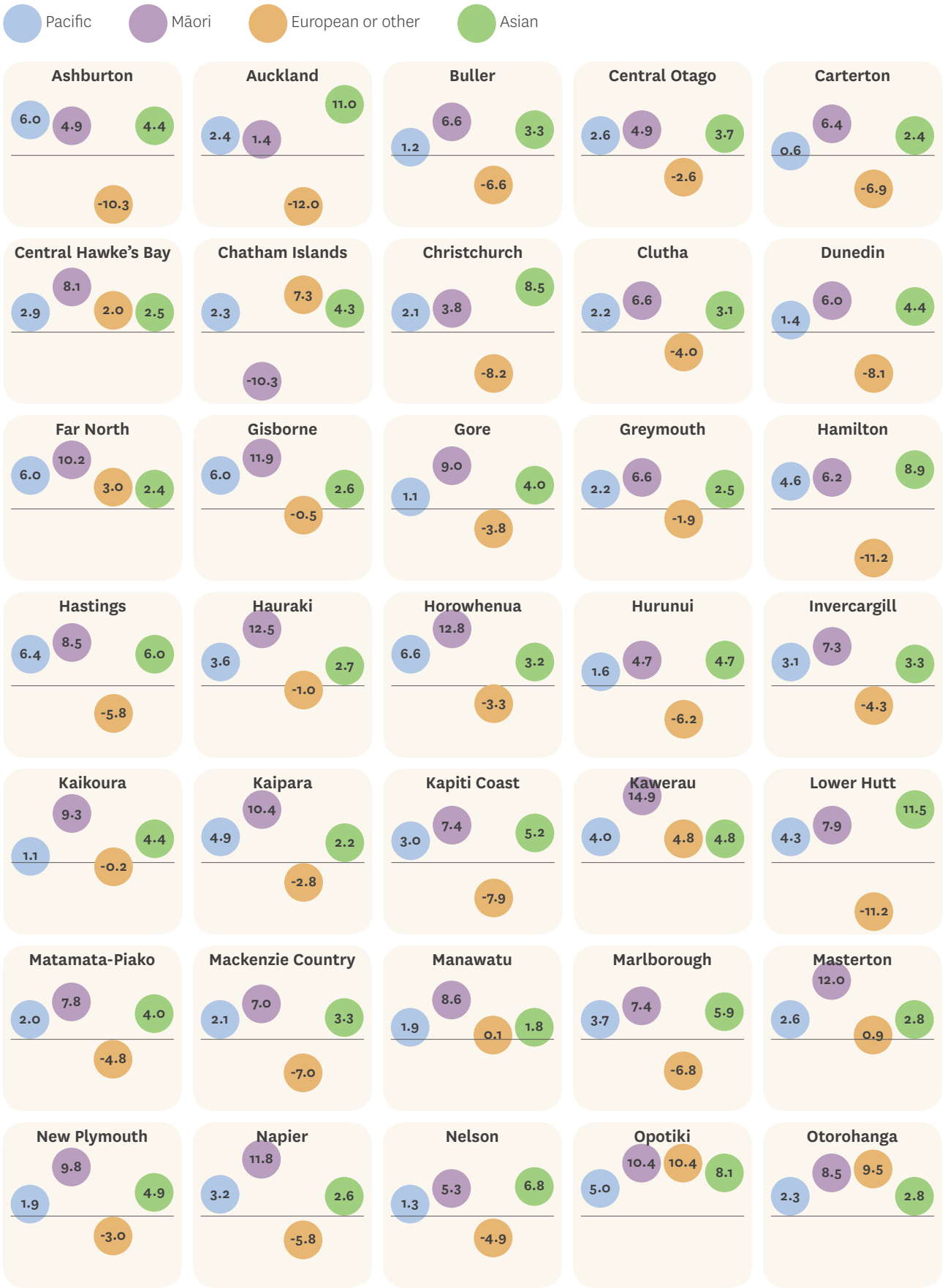
Source: Statistics New Zealand. Note that the graphics are not to scale.



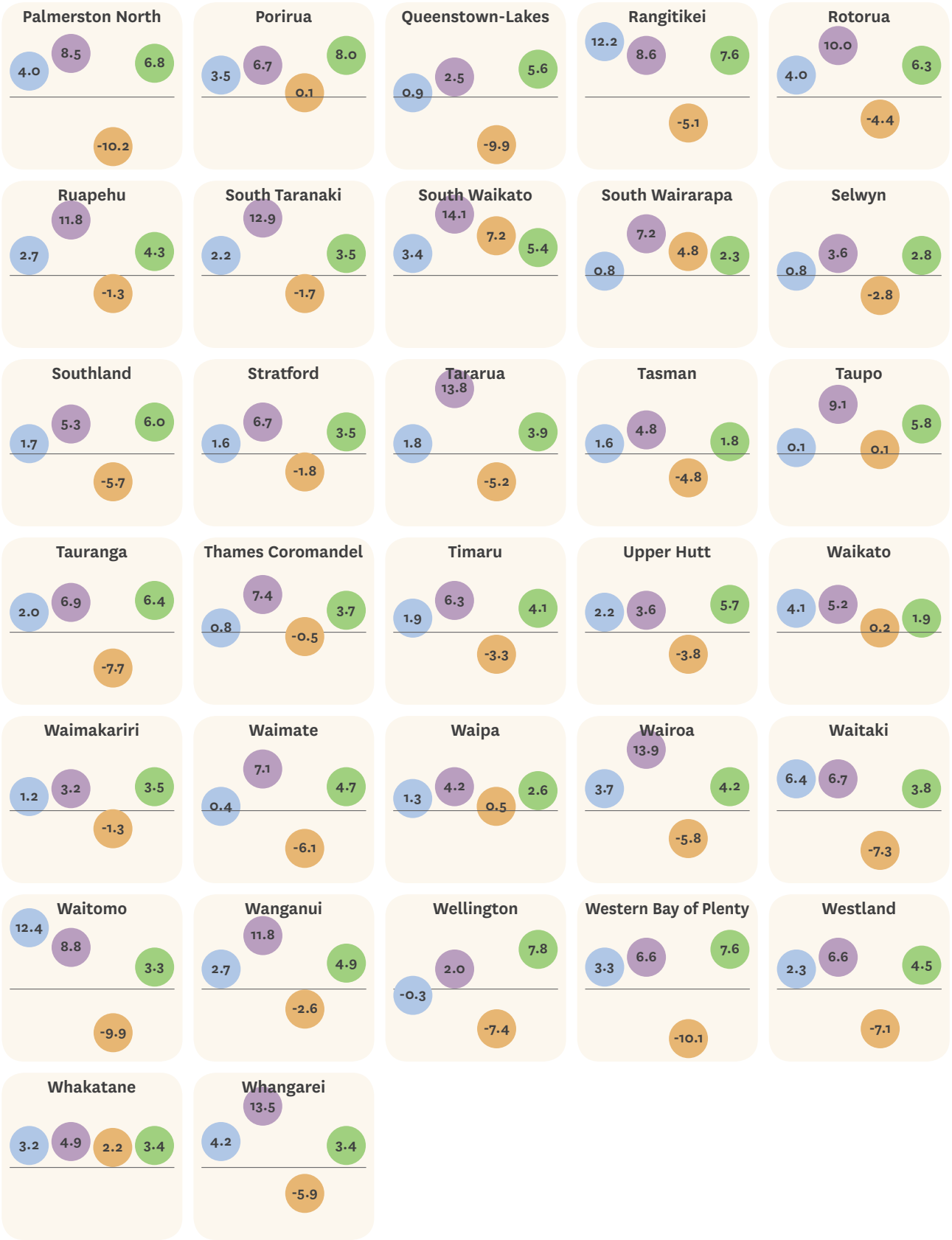
Source: Statistics New Zealand. Note that the graphics are not to scale.

Appendix C: Projected changes in ethnic composition

Figure C: Projected changes in ethnic composition by territorial authority: 2038 vs 2013 (per cent)



Source: Statistics New Zealand. Note that the graphics are not to scale.



Source: Statistics New Zealand. Note that the graphics are not to scale.

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